

2-18-11 Road Rules Task Force Plead with FPC edits

Road Rules, 2011
14 CCR, Div. 1.5 Chapter 4

- 1
- 2 § 895.1 Definitions.
- 3 § 914.7 [934.7, 954.7]. Timber Operations, Winter Period.
- 4 § 914.8 [934.8,954.8] Tractor Road Watercourse Crossings.
- 5 § 915.1 [935.1, 955.1]. Use of Heavy Equipment for Site Preparation.
- 6 § 916.3 [936.3,956.3] General Limitations Near Watercourses.
- 7 § 916.4 [936.4,956.4]
- 8 § 916.9 [936.9,956.9] Protection and Restoration of the Beneficial functions
of the Riparian Zone in Watersheds with Listed Anadromous Salmonids.
- 9 § 918.3 [938.3,958.3] Roads to be Kept Passable.
- 10 § 923 [943.1,963.1]Intent for Logging Roads, Landings, and Logging Road
Watercourse Crossings.
- 11 § 923.1 [943.2,963.2] Logging Road and Landing Planning.
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- 13 § 923.3 [943.3,963.3] Mapping and Identification for Logging Roads and
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- 14 § 923.4 [943.4,963.4] Construction & Reconstruction for Logging Roads and
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- 15 § 923.5 [943.5,963.5] Erosion Control for Logging Roads and Landings.
- 16 § 923.6 [943.6,963.6] Use of Logging Roads and Landings.
- 17 § 923.7 [943.7,963.7] Maintenance & Monitoring for Logging Roads and Landings
- 18 § 923.8 [943.8,963.8] Abandonment & Deactivation of Logging Roads and
Landings
- 19 § 923.9 [943.9,963.9]LTO Responsibility for Logging Roads and Landings
- 20 § 923.10 [943.10,963.10]Planning for Logging Road Watercourse Crossing
- 21 § 923.11 [943.11,963.11]Logging Road Watercourse Crossing Design and
Implementation
- 22 § 923.12 [943.12,963.12] Logging Road Watercourse Crossing Mapping and
Identification
- 23 § 923.13 [943.13,963.13] Logging Road Watercourse Crossing Construction &
Reconstruction
- 24 § 923.14 [943.14,963.14] Logging Road Watercourse Crossing Erosion Control
- 25 § 923.15 [943.15,963.15] Logging Road Watercourse Crossing Use
- § 923.16 [943.16,963.16] Logging Road Watercourse Crossing Maintenance &
Monitoring
- § 923.17 [943.17,963.17] Logging Road Watercourse Crossing Removal 1034
Contents of Plan
- § 1034 Contents of Plans
- § 1051.1.Contents of Modified NTMP
- § 1090.5 Contents of NTMP
- § 1090.7 Notice of Timber Operations Content
- § 1092.09 PTHP Contents
- § 1093.2. Contents of Road Management Plan.
- § 1104.1. Conversion Exemptions.

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1 **Notes:** Proposed new or relocated text in underscore

2 Deleted existing text in ~~strikeout~~

3 **Text in yellow** are amendments to the RRTF plead suggested by DFG or NMFS
under consideration.

4 **Text in red** are amendments to the RRTF plead suggested by CGS, CAL FIRE or
Board staff under consideration

5 Amend § 895.1. Definitions.

6
7 Abandoned Road means a logging road on which proactive measures have
8 been applied to effectively remove it from the permanent road network.

9
10 ~~Abandonment~~ means leaving a logging road reasonably impassable to
11 ~~standard production four wheel drive highway vehicles, and leaving a~~
12 ~~logging road and landings, in a condition which provides for long term~~
13 ~~functioning of erosion controls with little or no continuing~~
14 ~~maintenance.~~

15 Abandonment means taking proactive measures to effectively remove an
16 existing logging road, landing, or logging road watercourse crossing
17 from the permanent road network.

18
19 Appurtenant Road means a road that is owned or controlled by the
20 timberland owner, timber operator or timber owner, and will be used
21 during the harvesting of a particular plan area.

22
23 CAL FIRE Option: Appurtenant Road means a logging road under the
24 ownership or control of the timber owner, timberland owner, timber
25 operator, or plan submitter that will be used for log hauling and that

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1 is between the plan area and the first public road to be used for log
2 hauling.¹

3 ~~Berm means a curb or dike constructed to control water and prevent~~
4 ~~roadway runoff waters from discharging onto roadside slopes and/or to~~
5 ~~provide material for subsequent road maintenance.~~

6 Berm means a curb, dike, or linear mound of earth that is constructed
7 to control water and direct roadway runoff waters or that has
8 developed through road grading activities.

9
10 Connected Headwall Swale means a geomorphic feature consisting of a
11 bowl-shaped, concave depression with convergent slopes, typically of
12 65 percent or greater steepness, that is connected to a watercourse or
13 lake by way of a continuous linear depression and that has been
14 sculpted over geologic time by shallow landslide events. The slope
15 profile is typically smooth and unbroken by benches, but may be
16 interrupted by recent landslide deposits or scars. Emergent
17 groundwater and wet areas may exist at the base of the swale. Soil
18 and colluvium depth is typically greatest at the axis of the swale,
19 thinning to either side.

20
21 Critical Dip means a constructed dip across a logging road surface
22 immediately down grade from, or over, a culverted logging road
23 _____

24 ¹ Term inserted for two reasons: 1) term is used routinely in existing FPRs
25 (see definition of Logging Area in 895.1) and needs a clear meaning; 2) The
use of the term helps clarity which roads need erosion site assessments as
proposed under 923.1 (e). As the Option CB CAL FIRE language is used in the
Road Rules in section 1092.1

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1 watercourse crossing that functions to prevent crossing overflow from
2 draining down the road.

3
4 **Crowning** means creating a road surface with a convex cross sectional
5 profile that drains runoff toward both sides of the road.

6
7 **Deactivated Road** means a logging road that is part of the permanent
8 road network where proactive measures have been applied to prevent
9 active use.

10
11 **Deactivation** means taking the proactive measures necessary to prevent
12 the active use of an existing logging road, landing, or logging road
13 watercourse crossing.

14
15 **End-Hauling** means the removal and transport of ~~excavated~~ excess
16 material to prevent sidecast.

17
18 **Excess Material** means excavated material that is not used ~~or~~ needed as
19 a functional part of the road or a landing. Excess material is
20 synonymous with spoils.

21
22 **Extended Wet Weather Period** means the period from October 15 to May 1.

23 2

24
25

² The concept of the extended wet weather period being based on rainfall data, perhaps on rainfall records for Hydrologic Sub Areas or Super Planning

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1 **Fill** means material that is mechanically placed ~~in low areas~~ and built
2 up in lifts to form a the roadbed or landing surface. Fill includes
3 the material placed around culverts and related drainage structures at
4 logging road watercourse crossings.

5
6 **Ford** means a logging road watercourse crossing where the road grade
7 dips through the watercourse channel.

8
9 **Harvest Area** means the area where trees are felled and removed.

10
11 **DFG Option: Inside Ditch Hydraulic Capacity** means the ability of an
12 inboard ditch to contain flow from a runoff event without overflowing
13 to the road surface or substantially downcutting the inboard ditch.

14
15 **Insloping** means shaping the road surface to drain toward a cutbank.

16 **Outsloping** means shaping the road surface to drain toward the outside
17 edge.

18
19 **Permanent Road** means ~~a road which is planned and constructed to be~~
20 ~~part of a permanent all-season transportation facility. These roads~~
21 ~~have a surface which is suitable for the hauling of forest products~~

22
23 Watersheds, appears to be a logical way to approach this issue. DFG
24 recommended that its option for a MAY 31 st date be dropped. This decision
25 was based on the May 31 date being generated from data from NW California
Coho salmon rainfall records. Since these records are from areas covered by
HCPs need for the extended date is not needed, and the May 31 date is not
applicable for other parts of the state.

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1 ~~throughout the entire winter period and have drainage structures, if~~
2 ~~any, at watercourse crossings which will accommodate the fifty year~~
3 ~~flood flow. Normally they are maintained during the winter period. a~~
4 logging road that is part of the permanent road network and is
5 planned, constructed, and maintained for year-round use.

6
7 **Permanent Road Network** means the permanent, seasonal, ~~and temporary,~~
8 and deactivated roads that provide the infrastructure necessary for
9 timber operations and forest management.

10
11 **Permanent Watercourse Crossing** means a watercourse crossing that ~~will~~
12 ~~be constructed to accommodate the estimated fifty year flood flow and~~
13 will remain in place when timber operations have been completed.

14 **Prescribed Maintenance Period** means the time period, beginning with
15 filing of the work completion report, provided that the report is
16 subsequently approved, during which erosion controls ~~which~~ that are
17 required and constructed as part of a timber operations must be
18 maintained in a functional condition. ~~The period shall not exceed~~
19 ~~three years from the filing of the work completion report provided~~
20 ~~that the report is subsequently approved by the director.~~

21
22 **Public Road** means a road open to the general public which is: (a) in
23 ~~the~~ a Federal, State, or County, or City road system, or (b) a road on
24 which a public agency has deeded, unlimited easement.

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1 DFG Option - with 2/1/11 FPC changes:³ Road approach means the portion
2 of the logging road surface that drains overland water flow to the
3 watercourse crossing. Road approaches begin/end at the nearest
4 functional drainage structure/facility or the first high point on the
5 road where road surface overland water flow drains away from the
6 watercourse crossings. Crossings often have two road approaches.

7
8 Road Maintenance means activities involving manipulation of the
9 logging road prism to maintain stable operating surfaces, functioning
10 logging road drainage facilities and structures, and stable cutbanks
11 and fill slopes. DFG Option: Examples of road maintenance include
12 shaping and/or rocking a road surface; installation and maintenance of
13 rolling and critical dips; restoring functional capacity of inboard
14 ditches, cross drains, or culverts; and repairing water bars.

15 Road Prism means all parts of a road including cut banks, ditches,
16 road surfaces, road shoulders, and road fills.

17
18 DFG Option: Scour means the process of erosion by flowing water.

19
20 ~~Seasonal Road means a road which is planned and constructed as part of~~
21 ~~a permanent transportation facility where: 1) commercial hauling may~~

22
23 ³ Change made at FPC meeting on 2/1/11. Deletes that approaches are
24 characterized by road surfaces that are not hydrologically disconnected and
25 drain overland water flow to watercourses. Intent to clearly define physical
feature of an approach and address requirements for connected approaches in
the appropriate rule section. A companion edit is made to 923.5 (p)((4) and
(5) to implement this intent. FPC also notes that this definition is intended
to address approaches at watercourse crossing, to various water bars, dips,
away from water course crossings.

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1 ~~be discontinued during the winter period, or 2) the landowner desires~~
2 ~~continuation of access for fire control, forest management activities,~~
3 ~~Christmas tree growing, or for occasional or incidental use for~~
4 ~~harvesting of minor forest products, or similar activities. These~~
5 ~~roads have a surface adequate for hauling of forest products in the~~
6 ~~non winter periods, and in the extended dry periods or hard frozen~~
7 ~~conditions occurring during the winter period; and have drainage~~
8 ~~structures, if any, at watercourse crossing which will accommodate the~~
9 ~~fifty year flood flow. Some maintenance usually is required logging~~
10 ~~road that is part of the permanent road network where use is generally~~
11 ~~discontinued during the winter period.~~

12
13 **DFG Option: Sediment Filter Strip** means a structure or vegetation that
14 substantially prevents concentration, transport, and delivery of sediment to
15 a watercourse or lake by reducing velocity and filtering water through
16 features such as gradual slopes treated with vegetation, gentle slopes, woody
17 debris and mulch or settling basins.

18
19 **Sidecast** means excess earthen material pushed or dumped ~~to or~~ over the
20 side of a roads or landings.

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1
2 BOF Staff Option: Significant discharge of sediment⁴ means sediment
3 that is currently, or may be in the future, discharged to watercourses
4 or lakes in quantities that violate of Water Quality Requirements or
5 result in significant individual or cumulative adverse impacts to the
6 beneficial uses of water. Operations that cause or contribute to
7 generation of sediment or visibly turbid water that may enter a
8 downstream watercourse, including turbid water in a drainage facility,
9 are an indicator of potential significant discharge of sediment.

10
11 BOF Staff Option: Significant existing or potential erosion site
12 means a location where sediment is currently, or may be in the future,
13 discharged to watercourses or lakes in quantities that violate Water
14 Quality Requirements or result in significant individual or cumulative
15 adverse impacts to the beneficial uses of water.⁵ A site that is
16 eroding but is not delivering, nor has the potential to deliver
17 sediment to a water body, is not a significant existing or potential
18 erosion site.⁶

19
20 **Temporary Road means a logging road that is to be used only during the**
21 **timber operations and that will be deactivated or abandoned upon**

22
23 ⁴ New definition proposed by Board staff in January 2011 to standardize
24 sediment discharge prevention language used throughout the Road Rules.

25 ⁴ Added on 12/20/10 by BOF staff as a result of usage proposed by FPC in
section 923.1 (d).

⁵ Added on 12/20/10 by BOF staff as a result of usage proposed by FPC in
section 923.1 (d).

⁶ BOF staff revision to definition based on adaptation of language used in the
NCRWQCB ECP guidance document for the Scott River.

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1 completion of use. ~~These roads have a surface adequate for seasonal~~
2 ~~logging use and have drainage structures, if any, adequate to carry~~
3 ~~the anticipated flow of water during the period of use.~~

4 Through Cut means a section of road that lies below the adjacent
5 ground level on both sides of the road.

6
7 Through Fill means a section of road upon constructed fill that lies
8 above the adjacent ground level on both sides of the road.

9
10
11 Amend 14 CCR § 914.7 [934.7, 954.7]. Timber Operations, Winter
12 Period.

13 During the winter period:

14 (a) Mechanical site preparation and timber harvesting, shall not be
15 conducted unless a winter period operating plan is incorporated in the
16 timber harvesting plan and is followed, or unless the requirements of
17 subsection (c) are met. Cable, helicopter and balloon yarding methods
18 are exempted.

19 (b) The winter period operating plan shall include the specific
20 measures to be taken in winter timber operations to minimize damage
21 due to erosion, soil movement into watercourses and soil compaction
22 from felling, yarding, loading, mechanical site preparation, and
23 erosion control activities. A winter period operating plan shall
24 address the following subjects:

- 25 (1) Erosion hazard rating.
- (2) Mechanical site preparation methods.
- (3) Yarding system (constructed skid trails).
- (4) Operating Period.
- (5) Erosion control facilities timing.
- (6) Consideration of form of precipitation-rain or snow.
- (7) Ground conditions (soil moisture condition, frozen).
- (8) Silvicultural system-ground cover.
- (9) Operations within the WLPZ.
- (10) Equipment use limitations.
- (11) Known unstable areas.

(c) In lieu of a winter period operating plan, the RPF can specify
the following measures in the THP:

- (1) **BOF Adopted Language 9/7/10:** Tractor yarding or the use of
tractors for constructing layouts, firebreaks or other tractor roads

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1 shall be done only during dry, rainless periods and shall not be
2 conducted on saturated soils conditions that may produce sediment in
3 quantities sufficient to cause a visible increase in turbidity of
4 downstream waters in receiving Class I, II, III or IV waters or that
5 violate Water Quality Requirements.

6 (1) **STAFF OPTION:** Tractor yarding or the use of tractors for
7 constructing layouts, firebreaks or other tractor roads shall be done
8 only during dry, rainless periods and shall not be conducted on
9 saturated soils. Tractor operations may occur on isolated wet spots
10 provided measures, as stated in the THP, are taken to prevent
11 significant discharge of sediment to watercourses or lakes. ~~conditions~~
12 ~~that may produce sediment in quantities sufficient to cause a visible~~
13 ~~increase in turbidity of downstream waters in receiving Class I, II,~~
14 ~~III or IV waters or that violate Water Quality Requirements.~~

15 (1) **CAL FIRE OPTION from 8/23/10⁷ comments:** Tractor yarding or
16 the use of tractors for constructing layouts, firebreaks or other
17 tractor roads shall be done only during dry, rainless periods where
18 soils are not saturated. Tractor yarding or the use of tractors may
19 occur on isolated wet spots provided measures, as specified in the
20 THP, are taken to prevent impacts to soil productivity, and discharge
21 that may reach watercourses or lakes. ~~and shall not be conducted on~~
22 ~~saturated soils conditions that may produce sediment in quantities~~

23 ⁷ CAL FIRE Option incorporates Cal Fire recommended rule changes submitted to
24 the board on August 23, 2010. The changes address sediment discharge risks
25 associated with operations on saturated soils. The amendments ensure better
enforcement of operation on saturated soils as the current definition of
saturated soils is easy to understand, can be applied consistently by Cal
Fire inspectors, and avoids subjective interpretations of "potential"
discharges. The changes address water board issues on noncompliance with
policies regarding the use of "increased invisible turbidity" as the point of
cessation of operations.

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~~sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~

(1)⁸ **CGS OPTION:** Tractor yarding or the use of tractors for constructing layouts, firebreaks or other tractor roads shall be done only during dry, rainless periods and shall not be conducted on saturated soils conditions that may produce sediment in quantities ~~that violate Water Quality Requirements or result in significant~~ **NMFS** ~~OPTION: individual or cumulative~~ adverse impacts to the beneficial uses of water ~~sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~

Amend § 914.8 [934.8, 954.8] Tractor Road Watercourse Crossing

(d) Tractor road ~~W~~watercourse crossing facilities ~~not constructed to permanent crossing standards on tractor roads~~ shall be removed and stabilized before the beginning of the winter period. ~~If a watercourse crossing is to be removed, it shall be removed in accordance with~~ to the standards of 14 CCR § 923.3(d) [943.3(d), 963.3(d)] 923.17 [943.17, 963.17], subsections(a)-(c) . The RPF may propose an exception if explained and justified in the plan and found by the Director to be in conformance with this article.

⁸ *CGS OPTION was proposed as part of the FPC deliberation in 2010 for language on sediment discharge. The language is used throughout the Road Rules proposal. Staff's recommendation is for the Board to select sediment discharge language and use it be routinely used throughout the Road Rules 2010 proposal.*

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Amend 14 CCR § 915.1 [935.1, 955.1]. Use of Heavy Equipment for Site Preparation.

(a) Use of heavy equipment for site preparation shall comply with the provisions set forth in 14 CCR 914.2 [934.2, 954.2].

(b) **BOF Adopted Language 9/7/10:** Heavy equipment shall not be used for site preparation under saturated soil conditions that may produce sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters; that violate Water Quality Requirements; or when it cannot operate under its own power due to wet conditions.

(b) **STAFF OPTION:** Heavy equipment shall not be used for site preparation under saturated soil conditions. Heavy equipment use for site preparation may occur on isolated wet spots provided measures, as specified in the THP, are taken to prevent impacts to soil productivity, and significant discharge of sediment to watercourses or lakes. that may produce sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters; that violate Water Quality Requirements; or when it cannot operate under its own power due to wet conditions.

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1 (b) CAL FIRE OPTION from 8/23/10⁹ comments: Heavy equipment shall not
2 be used for site preparation under saturated soil conditions. Heavy
3 equipment use for site preparation may occur on isolated wet spots
4 provided measures, as specified in the THP, are taken to prevent
5 impacts to soil productivity, and discharge that may reach
6 watercourses or lakes.~~that may produce sediment in quantities~~
7 ~~sufficient to cause a visible increase in turbidity of downstream~~
8 ~~waters in receiving Class I, II, III or IV waters; that violate Water~~
9 ~~Quality Requirements; or when it cannot operate under its own power~~
10 ~~due to wet conditions.~~

11 (b)¹⁰ CGS OPTION: Heavy equipment shall not be used for site
12 preparation under saturated soil conditions that may produce sediment
13 in quantities that violate Water Quality Requirements or result in
14 significant NMFS OPTION: individual or cumulative adverse impacts to
15 the beneficial uses of water ~~sufficient to cause a visible increase in~~
16 ~~turbidity of downstream waters in receiving Class I, II, III or IV~~

18 ⁹ Option incorporates Cal Fire recommended rule changes submitted to the board
19 on August 23, 2010. The changes address sediment discharge risks associated
20 with operations on saturated soils. The amendments also ensure better
21 enforcement of operation on saturated soils as the current definition of
22 saturated soils is easy to understand, can be applied consistently by Cal
Fire inspectors, and avoids subjective interpretations of "potential"
discharges. The changes address water board issues on noncompliance with
policies regarding the use of "increased invisible turbidity" as the point of
cessation of operations.

23 ¹⁰ CGS OPTION was proposed as part of the FPC deliberation in 2010 for
24 language on sediment discharge. The language is used throughout the Road
Rules proposal. Staff's recommendation is for the Board to select sediment
25 discharge language and use it be routinely used throughout the Road Rules
2010 proposal.

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1 ~~waters; that violate Water Quality Requirements; or when it cannot~~
2 ~~operate under its own power due to wet conditions.~~

3
4 Amend § 916.3 [936.3, 956.3]. General Limitations Near Watercourses,
5 Lakes, Marshes, Meadows and Other Wet Areas

6 (c) The timber operator shall not ~~construct or reconstruct roads,~~
7 construct or use tractor roads ~~or landings~~ in Class I, II, III or IV
8 watercourses, in the WLPZ, marshes, wet meadows, and other wet areas
9 unless when explained and justified in the ~~THP~~ plan by the RPF, and
10 approved by the Director, except as follows:

11 (1) At prepared tractor road crossings as described in 14 CCR §
12 914.8(b) [934.8(b), 954.8(b)].

13 (2) Crossings of Class III watercourses ~~which~~ that are dry at
14 the time of ~~timber operations~~ use.

15 ~~(3) At existing road crossings.~~

16 ~~(4)~~(3) At new tractor ~~and~~ road crossings approved as part of
17 the Fish and Game Code process (F&GC 1600 et seq.).

18 ~~Use of existing roads is addressed in 916.4(a) [936.4(a),~~
19 ~~956.4(a)].~~

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1 Amend 916.4 [936.4, 956.4]. Watercourse and Lake Protection.

2 (a) The RPF or supervised designee shall conduct a field
3 examination of all lakes and watercourses and shall map all lakes and
4 watercourses which contain or conduct Class I, II, III or IV waters.

5 (1) As part of this field examination, the RPF or
6 supervised designee shall evaluate areas near, and areas with the
7 potential to directly impact, watercourses and lakes for sensitive
8 conditions including, but not limited to, ~~existing and proposed roads,~~
9 skidtrails ~~and landings~~^{±±}, unstable and erodible watercourse banks,
10 unstable upslope areas, debris, jam potential, inadequate flow
11 capacity, changeable channels, overflow channels, flood prone areas,
12 and riparian zones wherein the values set forth in 14 CCR §§ 916.4~~(b)~~
13 [936.4~~(b)~~, 956.4~~(b)~~], subsection(b) are impaired. *****

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25 ¹¹ Deleted requirement for examination of roads and landings as part of the
watercourse classification, because this requirement has been transferred to
923.1 (d).

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1 Amend § 916.9 [936.9, 956.9]. Protection and Restoration of the
2 Beneficial functions of the Riparian Zone in Watersheds with Listed
3 Anadromous Salmonids.

4 In addition to all other district Forest Practice Rules, the following
5 requirements shall apply in any watershed with listed anadromous
6 salmonids. Requirements of 14 CCR § 916.9 [936.9, 956.9] precede other
7 sections of the FPRs.

8 **Geographic scope** - Requirements for watersheds with listed
9 anadromous salmonids differ depending on the geographic location of
10 the watershed and geomorphic characteristics of the watercourse.
11 Unique requirements for watersheds with listed anadromous salmonids
12 are set forth for 1) watercourses in the coastal anadromy zone with
13 confined channels, 2) watercourses with flood prone areas or channel
14 migration zones, and 3) watercourses with confined channels located
15 outside the coastal anadromy zone.

16 Watersheds which do not meet the definition of "watersheds with
17 listed anadromous salmonids" are not subject to this section except as
18 follows: ~~The provisions of 14 CCR 916.9 [936.9, 956.9], subsections~~
19 ~~(k)-(pq), 923.3 [943, 963] and 923.9 [943.9, 963.9]~~ also apply to
20 planning watersheds immediately upstream of, and contiguous to, any
21 watershed with listed anadromous salmonids for purposes of reducing
22 significant adverse impacts from transported fine sediment. Projects
23 in other watersheds further upstream that flow into watersheds with
24 listed anadromous salmonids, not otherwise designated above, may be
25 subject to these provisions based on an assessment consistent with
cumulative impacts assessment requirements in 14 CCR §§ 898 and 912.9
[932.9, 952.9] and Technical Rule Addendum No. 2, Cumulative Impacts
Assessment. These requirements do not apply to upstream watersheds
where permanent dams attenuate the transport of fine sediment to
downstream watercourses with listed anadromous salmonids.*****

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1 ******* (f) Class I watercourses -**

2 (1) For Class I watercourses, where fish are always or seasonally
3 present or where fish habitat is restorable, any plan involving timber
4 operations within the WLPZ shall contain the following information:

5 (A) Clear and enforceable specifications of timber
6 operations within the Class I WLPZ, including a description of how any
7 disturbance, or log or tree cutting and removal shall be carried out
8 to conform with 14 CCR §§ 916.2 [936.2, 956.2], subsection (a) and
9 916.9 [936.9, 956.9], subsection (a).

10 ~~(B) A description of all existing permanent logging road
11 watercourse crossings.~~

12 ~~(C) Clear and enforceable specifications describing how
13 these crossings are to be modified, used, and treated to minimize
14 risks, giving special attention to allowing fish to pass both upstream
15 and downstream during all life stages.~~

16 ~~(D) Clear and enforceable specifications for construction
17 and operation of any new crossing(s) of a Class I watercourse to
18 prevent direct harm, habitat degradation, water velocity increase,
19 hindrance of fish passage, or other potential impairment of beneficial
20 uses of water~~

21 (EB) Documentation of how proposed harvesting in the WLPZ
22 contributes to the objectives of each zone stated in 14 CCR § 916.9
23 [936.9, 956.9], subsection (c) and other goals in 14 CCR § 916.9
24 [936.9, 956.9], subsection (a) (1)-(8). Documentation shall include
25 the examinations, analysis, and other requirements listed in 14 CCR §
916.4 [936.4, 956.4], subsection (a).*****

***** (3) Class I watercourses with flood prone areas or channel
migration zones:*****

***** (E) Preferred Management Practices in the Inner Zone A
and B of Flood Prone Areas*****

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1 - 4. ~~Avoid Road and Landing Use: All new roads and~~
2 ~~landings shall be located outside of zone. When feasible, minimize~~
3 ~~use of existing roads and landings in the flood prone area. No~~
4 ~~servicing of equipment within the flood prone area. Exceptions~~
5 ~~include the use of roads and landings to accomplish actions to~~
6 ~~improved salmonid habitat conditions stated 14 CCR § 916.9 [936.9,~~
7 ~~956.9]. subsection (f)(3)(E(1.) above.~~

8 **5-4.** Avoid Slash concentration and site
9 preparation:***** and pile burning.

10 **6-5.** Delineate Zone on the Ground:***** Locations
11 of all WLPZ zones and CMZs shall be designated on the ground.

12 **7-6.** Avoid Use of Water Drafting Sites:***** or
13 stream alteration permits.

14 **8-7.** Avoid Disturbance to Critical Flood Prone
15 **Area Habitat::******* and down large woody debris.

16 **(F)** Outer Zone:*****
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1 ****(k) Year-round logging road, landing and tractor road use
2 limitations.

3 (1)¹² RRTF Proposal 3/2/10 with BOF Adopted Language 9/7/10:

4 Logging roads, landings or tractor roads shall not be used when
5 visibly turbid water from the road, landing or tractor road (skid
6 trail) or an inside ditch associated with the logging road, landing or
7 tractor road may produce sediment in quantities sufficient to cause a
8 visible increase in turbidity of downstream waters in receiving Class
9 I, II, III or IV waters or violate Water Quality Requirements.

10 (1) Staff OPTION: Logging roads, landings or tractor roads
11 shall not be used when operations may result in significant discharge
12 of sediment to watercourses or lakes. ~~visibly turbid water from the~~
13 ~~road, landing or tractor road (skid trail) or an inside ditch~~
14 ~~associated with the logging road, landing or tractor road may produce~~
15 ~~sediment in quantities sufficient to cause a visible increase in~~
16 ~~turbidity of downstream waters in receiving Class I, II, III or IV~~
17 ~~waters or violate Water Quality Requirements.~~

24 _____
25 ¹² Modified RRTF proposal to conform to language for this section adopted by
BOF on 9/7/10 for the "Operations and Saturated Soils, 2010" regulation.

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1 (1) CAL FIRE OPTION from 8/23/10 comment¹³: ~~Logging roads,~~
2 ~~landings or~~ Tractor roads shall not be used when visibly turbid water
3 from the road, ~~landing or~~ tractor road (skid trail) ~~or an inside ditch~~
4 ~~associated with the logging road, landing or tractor road~~ may reach
5 watercourses or lakes. ~~produce sediment in quantities sufficient to~~
6 ~~cause a visible increase in turbidity of downstream waters in~~
7 ~~receiving Class I, II, III or IV waters or violate Water Quality~~
8 ~~Requirements.~~

9 (1)¹⁴ CGS OPTION: ~~Logging roads, landings or~~ Tractor roads
10 shall not be used when visibly turbid water from the road, ~~landing or~~
11 tractor road (skid trail) ~~or an inside ditch associated with the~~
12 logging road, ~~landing or tractor road~~ may produce sediment in
13 quantities that violate Water Quality Requirements or result in
14 significant NMFS OPTION: individual or cumulative adverse impacts to
15 the beneficial uses of water. ~~sufficient to cause a visible increase~~
16 ~~in turbidity of downstream waters in receiving Class I, II, III or IV~~
17 ~~waters or violate Water Quality Requirements.~~

18
19
20 ¹³ Option incorporates Cal Fire recommended rule changes submitted to the
21 board on August 23, 2010. The changes address water board issues on
22 noncompliance with policies regarding the use of "increased invisible
turbidity" as the point of cessation of operations.

23 ¹⁴ CGS OPTION was proposed as part of the FPC deliberation in 2010 for
24 language on sediment discharge. The language is used throughout the Road
25 Rules, 2010 proposal. Staff's recommendation is that whichever Option is
selected on sediment discharge, (the CGS/RRTF's, CAL FIRE Option A, or the
language adopted by the Board in On 9/7/10, it be routinely used throughout
the Road Rules 2010 proposal.

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1 ~~(2) Log hauling on logging roads and landings shall be limited~~
2 ~~to those which are hydrologically disconnected from watercourses to~~
3 ~~the extent feasible, and exhibit a stable operating surface in~~
4 ~~conformance with (1) above.~~

5 ~~(3) Concurrent with use for log hauling, approaches to logging~~
6 ~~road watercourse crossings shall be treated for erosion control as~~
7 ~~needed to minimize soil erosion and sediment transport and to prevent~~
8 ~~the discharge of sediment into watercourses and lakes in quantities~~
9 ~~deleterious to the beneficial uses of water.~~

10 ~~(4) Concurrent with use for log hauling, all traveled surfaces~~
11 ~~of logging roads in a WLPZ or within any ELZ or EEZ designated for~~
12 ~~watercourse or lake protection shall be treated for erosion control as~~
13 ~~needed to minimize soil erosion and sediment transport and to prevent~~
14 ~~the discharge of sediment into watercourses and lakes in quantities~~
15 ~~deleterious to the beneficial uses of water.~~

16 ~~5) Grading to obtain a drier running surface more than one time~~
17 ~~before reincorporation of any resulting berms back into the road~~
18 ~~surface is prohibited.~~

19 **(1) Extended Wet Weather Period** - ~~October 15 to May 1 shall be~~
20 ~~considered the extended wet weather period and the~~The following shall
21 apply during the extended wet weather period:

22 **(1)** No timber operations shall take place unless the approved
23 plan incorporates a complete winter period operating plan pursuant to
24 14 CCR § 914.7 [934.7, 954.7], subsection (a) that specifically
25 addresses, where applicable, proposed logging road, landing or tractor
road construction, reconstruction and use ~~during the extended wet~~

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1 ~~weather period. Where logging road watercourse crossing construction~~
2 ~~or reconstruction is proposed an implementation schedule shall be~~
3 ~~specified.~~

4 (2) Unless the winter period operating plan proposes operations
5 during an extended wet weather period with low antecedent soil wetness,
6 no tractor roads shall be constructed, reconstructed, or used on slopes
7 that are over 40 percent and within 200 feet of a Class I, II, or III
8 watercourse, as measured from the watercourse or lake transition line
9 ~~during the extended wet weather period.~~

10 ~~(3) Logging roads, landings and tractor roads shall not be used~~
11 ~~when sediment from the logging road, landing or tractor road surface~~
12 ~~is transported to a watercourse or a drainage facility that discharges~~
13 ~~into a watercourse in amounts sufficient to cause a visible increase~~
14 ~~in turbidity in Class I, II, III, or IV waters.~~

15 ~~(4) Logging roads and landings shall not be used for log hauling~~
16 ~~when saturated soil conditions result in the visible increase in~~
17 ~~turbidity specified in (3) above.*****~~

18 ***** (n) **Treatments to stabilize soils** - Within the WLPZ, and
19 within any ELZ or EEZ designated for watercourse or lake protection,
20 treatments to stabilize soils, minimize soil erosion, and prevent the
21 discharge of sediment into watercourses or lakes in ~~amounts~~ quantities
22 deleterious to aquatic species or the quality and beneficial uses of
23 water, or that threaten to violate applicable water quality
24 requirements, shall be described in the plan as follows.
25

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1 (n) **CGS OPTION** Treatments to stabilize soils - Within the WLPZ, and
2 within any ELZ or EEZ designated for watercourse or lake protection,
3 treatments to stabilize soils, minimize soil erosion, and prevent the
4 discharge of sediment into watercourses or lakes in ~~amounts~~ quantities
5 that violate Water Quality Requirements or result in significant NMFS
6 OPTION: individual or cumulative adverse impacts to the beneficial
7 uses of water deleterious to aquatic species or the quality and
8 beneficial uses of water, or that threaten to violate applicable water
9 quality requirements, shall be described in the plan as follows.

10 (1)*****

11 *******(C)** Disturbed tractor road cut banks and fills,
12 and*****

13 *******(2)** Soil stabilization treatment measures may include, but need
14 not be limited to, removal, armoring with rip-rap, replanting,
15 mulching, rip-rapping, grass seeding, installing commercial erosion
16 control devices to manufacturer's specifications, or chemical soil
17 stabilizers.

18 (3)*****

19 *******(p)** ~~Erosion control maintenance~~ - ~~The erosion control~~
20 ~~maintenance period on permanent and seasonal roads and associated~~
21 ~~landings that are not abandoned in accordance with 14 CCR § 923.8~~
22 ~~[943.8, 963.8] shall be three years.~~

23 ~~(q)~~**(p)** Site preparation - *****

24 *******(r)** ~~Water drafting~~ - ~~Water drafting for timber operations~~
25 shall:

(1) Comply with Fish and Game Code Section 1600, et seq.

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1 ~~(A) Timber operations conducted under a Fish and Game Code~~
2 ~~Section 1600 master or long term agreement that includes water~~
3 ~~drafting may provide proof of such coverage for compliance with this~~
4 ~~paragraph.~~

5 ~~(2) Describe the water drafting site conditions and proposed~~
6 ~~water drafting activity in the plan, including:~~

7 ~~(A) a general description of the conditions and proposed~~
8 ~~water drafting;~~

9 ~~(B) a map showing proposed water drafting locations;~~

10 ~~(C) the watercourse classification;~~

11 ~~(D) the drafting parameters including the months the site~~
12 ~~is proposed for use; estimated total volume needed per day; estimated~~
13 ~~maximum instantaneous drafting rate and filling time; and disclosure~~
14 ~~of other water drafting activities in the same watershed;~~

15 ~~(E) the estimated drainage area (acres) above the point~~
16 ~~of diversion;~~

17 ~~(F) the estimated unimpeded streamflow, pumping rate, and~~
18 ~~drafting duration;~~

19 ~~(G) a discussion of the effects on aquatic habitat~~
20 ~~downstream from the drafting site(s) of single pumping operations, or~~
21 ~~multiple pumping operations at the same location, and~~
22 ~~at other locations in the same watershed;~~

23 ~~(H) a discussion of proposed alternatives and measures to~~
24 ~~prevent adverse effects to fish and wildlife resources, such as~~
25 ~~reducing hose diameter; using gravity fed tanks instead of truck~~
~~pumping; reducing the instantaneous or daily intake at one location;~~

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1 ~~describing allowances for recharge time; using other dust palliatives;~~
2 ~~and drafting water at alternative sites; and~~ _____

3 ~~(1) The methods that will be used to measure source~~
4 ~~streamflow prior to the water drafting operation and the conditions~~
5 ~~that will trigger streamflow to be measured during the operation.~~

6 ~~(3) All water drafting for timber operations are subject to each~~
7 ~~requirement below unless the Department of Fish and Game modifies the~~
8 ~~requirement in the Lake or Streambed Alteration agreement that~~
9 ~~authorized the drafting operation, or unless otherwise specified~~
10 ~~below:~~

11 ~~(A) All intakes shall be screened to prevent impingement~~
12 ~~of juvenile fish against the screen. The following requirements apply~~
13 ~~to screens and water drafting on Class I waters:~~

14 ~~1. Openings in perforated plate or woven wire mesh~~
15 ~~screens shall not exceed 3/32 inches (2.38 millimeters). Slot~~
16 ~~openings in wedge wire screens shall not exceed 1/16 inches (1.75~~
17 ~~millimeters).~~

18 ~~2. The screen surface shall have at least 2.5 square~~
19 ~~feet of openings submerged in water.~~

20 ~~3. The drafting operator shall regularly inspect,~~
21 ~~clean, and maintain screens to ensure proper operation whenever water~~
22 ~~is drafted.~~

23 ~~4. The approach velocity (water moving through the~~
24 ~~screen) shall not exceed 0.33 feet/second.~~

25 ~~5. The diversion rate shall not exceed 350 gallons per~~
~~minute.~~

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1 ~~(B) Approaches and associated drainage features to~~
2 ~~drafting locations within a WLPZ or channel zone shall be surfaced~~
3 ~~with rock or other suitable material to minimize generation of~~
4 ~~sediment.~~

5 ~~(C) Barriers to sediment transport, such as straw waddles,~~
6 ~~logs, straw bales or~~
7 ~~sediment fences, shall be installed outside the normal high water mark~~
8 ~~to prevent sediment delivery to the watercourse and limit truck~~
9 ~~encroachment.~~

10 ~~(D) Water drafting trucks parked on streambeds and~~
11 ~~floodplains shall use drip pans or other devices such as absorbent~~
12 ~~blankets, sheet barriers or other materials as needed to prevent soil~~
13 ~~and water contamination from motor oil or hydraulic fluid leaks.~~

14 ~~(E) Bypass flows for Class I watercourses shall be~~
15 ~~provided in volume sufficient to avoid dewatering the watercourse and~~
16 ~~maintain aquatic life downstream, and shall conform to the following~~
17 ~~standard:~~

18 ~~1. Bypass flows in the source stream during~~
19 ~~drafting shall be at least 2 cubic feet per second.~~

20 ~~2. Diversion rate shall not exceed 10 percent of the~~
21 ~~surface flow.~~

22 ~~3. Pool volume reduction shall not exceed 10 percent.~~

23 ~~(F) The drafting operator shall keep a log that records~~
24 ~~for each time water is drafted, the date, total pumping time, pump~~
25 ~~rate, starting time, ending time, and volume diverted. Logs shall be~~
~~filed with the Department of Forestry and Fire Protection at the end~~

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1 ~~of seasonal operations and maintained with the plan record. This~~
2 ~~requirement may be modified in the approved plan that covers the water~~
3 ~~drafting, but only with concurrence from the Department of Fish and~~
4 ~~Game.~~

5 ~~(G) Before commencing any water drafting operation, the RPF~~
6 ~~and the drafting operator shall conduct a pre operations field review~~
7 ~~to discuss the water drafting measures in the plan and/or Lake or~~
8 ~~Streambed Alteration Agreement.~~

9 ~~(s)(q) Exemption notices - *****~~

10 ~~(t)(r) Emergency Notices - *****~~

11 ~~(u)(s) Salvage logging - *****~~

12 ~~(t) Section reserved for future use.~~

13 ~~(u) Section reserved for future use.~~

14 ~~(v) Site-specific measures or nonstandard operational provisions No~~
15 ~~Changes *****~~

16
17 **Amend § 918.3 [938.3, 958.3]. Roads to be Kept Passable**

18 ~~Timber operators shall keep all logging truck roads in a passable~~
19 ~~condition during the dry season for fire truck travel until snag and~~
20 ~~slash disposal has been completed.~~

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1 Amend Article 12. [Article 11.] Logging Roads, Landings, and Logging
2 Road Watercourse Crossings. Logging Roads and Landings

3
4 Amend § 923 [943,963]. Intent for Logging Roads, Landings, and Logging
5 Road Watercourse Crossings Logging Roads and Landings.

6
7 (a) All logging roads, landings, and logging road watercourse
8 crossings in the logging area shall be planned, constructed,
9 reconstructed, used, maintained, removed, abandoned, and deactivated
10 in a manner that:

11 (1) Is consistent with long-term enhancement and maintenance of
12 the forest NMFS OPTION 1/3/11 and aquatic resource.

13 (2) Accommodates appropriate yarding systems.

14 (3) Is economically feasible.

15 (b) Such planning, construction, reconstruction, use, maintenance,
16 removal, abandonment, and deactivation shall occur in a manner that
17 minimizes potential adverse impacts to, among other things:¹⁵

18 (1) Public safety.

19 (2) Fish and wildlife habitat.

20 (3) Water quality and the beneficial uses of water.

21 (4) Soil resources.

22 (5) Significant archeological and historical sites.

23 (6) Air quality.

24 (7) Visual resources.

25
¹⁵ FPC decision point from March 2010: standardizes language for intent of minimizing impacts.

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1 (8) Worker safety.

2 (9) Fire hazard.

3 (c) The RPF may propose exceptions to these rules if explained and
4 justified in the plan and found by the Director to be in conformance
5 with this article.

6 (d) Exceptions may also be provided through application of Fish and
7 Game Code Sections 1600 et seq. and shall be made an enforceable part
8 of the plan in accordance with 14 CCR §§ 1039, 1040, 1090.14, 1092.26,
9 or 1092.27, as appropriate.

10 (e) The provisions of Articles 12 [Article 11 for Northern
11 District] that apply in watersheds with listed anadromous
12 salmonids and in planning watersheds immediately upstream of, and
13 contiguous to, any watershed with listed anadromous salmonids
14 shall not apply to a plan that is subject to:

15 (1) A valid incidental take permit issued by DFG pursuant to
16 Section 2081(b) of the Fish and Game Code that addresses anadromous
17 salmonid protection; or

18 (2) A federal incidental take statement or incidental take
19 permit that addresses anadromous salmonid protection, for which a
20 consistency determination has been made pursuant to Section 2080.1 of
21 the Fish and Game Code; or

22 (3) A valid natural community conservation plan that
23 addresses anadromous salmonid protection approved by DFG under
24 section 2835 of the Fish and Game Code; or

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1 (4) A valid NMFS OPTION 1/3/11 Habitat Conservation Plan
2 that addresses anadromous salmonid protection, approved under
3 Section 10 of the federal Endangered Species Act of 1973; or

4 (5) Project revisions, guidelines, or take avoidance
5 measures pursuant to a memorandum of understanding or a planning
6 agreement entered into between the plan submitter and DFG in
7 preparation of obtaining a natural community conservation plan
8 that addresses anadromous salmonid protection.

9 (f) NMFS OPTION 1/3/11 In addition to all other district Forest
10 Practice Rules the following goals and objectives shall apply to all
11 logging roads, landings, and logging road watercourse crossings In
12 watersheds with listed anadromous salmonids and in planning watersheds
13 immediately upstream of, and contiguous to, except in watersheds where
14 permanent dams attenuate the transport of fine sediment to downstream
15 watercourses, and in any watershed with listed anadromous salmonids:

16 (1) Goal: All logging roads, landings, and logging road
17 watercourse crossings in the logging area shall be planned,
18 constructed, reconstructed, used, maintained, removed, abandoned, and
19 deactivated in a manner that protects, maintains, and contributes to
20 the restoration and recovery of properly functioning salmonid habitat
21 and populations of listed salmonid species. To achieve this goal, the
22 RPF and LTO shall ensure that all logging roads and landings be
23 planned, constructed, reconstructed, used, maintained, removed,
24 abandoned, and deactivated to:

25 (A) Comply with terms of a Total Maximum Daily Load (TMDL).

(B) Prevent, individual and cumulative, significant

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1 sediment load transport to a watercourse or lake in order to ensure a
2 functioning anadromous salmonid population can have the quality and
3 quantity of habitat that occurs in their preferred range or where they
4 are present or where they could be restored, needed to:

5 (i) provide foraging opportunities for juvenile
6 anadromous salmonids to achieve optimal growth before ocean entry;

7 (ii) provide rearing habitat throughout the year; and

8 (iii) provide clean gravels for successful spawning.

9 (C) Prevent any blockage of any aquatic migratory routes
10 for any life stage of anadromous salmonids or listed species.

11 (D) Prevent any adverse effects to stream flow.

12 (E) Consider watershed recommendations in Recovery Plans
13 for listed anadromous salmonids developed by the National Marine
14 Fisheries Service and the California Department of Fish and Game.

15 **(2) Objectives for Logging Roads, Landings, and Logging Road**
16 **Crossings.** All logging roads, landings, and logging road crossings-
17 that are planned, constructed, reconstructed, used, maintained,
18 removed, abandoned, and deactivated as part of a Plan shall have
19 protection, maintenance, or restoration and repair existing conditions
20 detrimental to the species or species habitat of properly functioning
21 salmonid habitat and populations as objectives. Practices that meet
22 this objective include, but are not limited to, abandonment and up-
23 grading of non-functioning and high risk roads, watercourse crossings,
24 road approaches, and hydrologically disconnecting to the maximum
25 extent practicable logging roads and landings that are existing
constructed or reconstructed.

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1 Amend § 923.1[943.1, 963.1]. Planning for Logging Roads and Landings.

2 The following standards shall apply to logging roads and landings:

3 (a) Logging roads and landings shall be planned and located within
4 the context of a systematic layout pattern that considers 14 CCR §
5 923(b), uses existing logging roads and landings where feasible and
6 appropriate, provides access for fire and resource protection
7 activities, and minimizes the following¹⁶:

8 (1) Total road mileage.

9 (2) The number of logging road watercourse crossings.

10 (3) Activities near watercourses, lakes, marshes, wet meadows,
11 and other wet areas.

12 (4) Activities across steep areas that lead without flattening
13 to Class I, II, III, or IV watercourses and lakes.

14 (5) Activities on unstable areas or in connected headwall
15 swales.

16 (6) Activities near nesting sites of rare, threatened, or
17 endangered bird species.

18 (7) Activities near significant populations of rare,
19 threatened, or endangered plants.

20 (8) Ground disturbance, cuts, and fills.

21 (9) The potential for affecting surface hydrology, including
22 but not limited to, concentrating or diverting runoff or draining the
23 logging road or landing surface directly into a watercourse or lake.

24
25

¹⁶ FPC decision point from March 2010: Standardizes language for intent of minimizing impacts.

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1 (10) Maintenance needs while being compatible with the logging
2 road classification and long-term road usage.

3 (b) No logging roads or landings shall be planned for construction or
4 reconstruction in Class I, II, III, or IV watercourses or lakes,
5 within a WLPZ, or in marshes, wet meadows, and other wet areas, except
6 as follows:

7 (1) At existing logging road watercourse crossings.

8 (2) At constructed or reconstructed logging road watercourse
9 crossings approved as part of the Fish and Game Code process (F&GC
10 1600 et seq.)

11 (3) At logging road watercourse crossings of Class III
12 watercourses that are dry at the time of use.

13 (c) Logging roads and landings shall be planned and located to avoid
14 unstable areas and connected headwall swales. The Director may
15 approve an exception if those areas are unavoidable and site-specific
16 measures to minimize slope instability due to logging road or landing
17 construction or reconstruction are described and justified in the
18 plan.

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1 (d)¹⁷ As part of the planning and use of logging roads and landings,
2 the RPF or supervised designee shall evaluate and document sensitive
3 conditions and significant existing and potential erosion sites, and
4 specify and schedule feasible treatments.

5 (1) During the field examination of classified watercourses and
6 lakes required under 14 CCR § 916.4 [936.4, 956.4], the RPF or
7 supervised designee shall evaluate watercourse areas near existing,
8 constructed, and reconstructed logging roads and landings for
9 significant existing and potential adverse impacts to sensitive
10 conditions. Sensitive conditions include, but are not limited to,
11 unstable and erodible watercourse banks, unstable upslope areas,
12 channels with inadequate flow capacity, changeable channels, overflow
13 channels, flood prone areas, debris jam potential, aggraded channels,
14 and riparian zones wherein the values set forth in 14 CCR 916.4
15 [936.4, 956.4], subsection (b) are impaired.

16 (2) The RPF or supervised designee shall evaluate all logging
17 roads and landings in the logging area, including appurtenant roads,
18 for evidence of significant existing and potential erosion sites.

19 (3) The RPF shall consider the sensitive conditions and
20 significant existing and potential erosion sites identified by
21 sections 14 CCR § 923.1 [943.1, 963.1] subsections(d)(1) and (2), and

22
23 ¹⁷ On January 4, 2011, the FPC determined to include in the Road Rules 2011
24 proposal for erosion site assessments section 923.1 (d). This decision
25 results in the RRTF proposals in 923.2 (f), the existing ASP rules 916.9 (o)
and DFG/NMFS proposal in 923.1 (h) being deleted. The FPC found that 923.1
(d) provides additional documentation requirements of erosion sites compared
to 916.9 (o). 923.1 (d) requires disclosure of both existing and potential
sites, where 916.9 (o) required only "on-going sites". Also the FPC found
that the proposed 923.1(d) requires disclosures of a schedule to treat sites
where (o) does not.

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1 the measures needed to maintain and restore, to the extent feasible,
2 the functions set forth in 14 CCR § 916.4 [936.4, 956.4], subsection
3 (b) when planning logging roads and landings. Key factors to consider
4 as part of developing necessary measures include:

5 (A) Type of road (permanent all-season, seasonal, or
6 temporary road), road location, expected log truck haul routes, and
7 traffic use (e.g. volume and season) of each road segment during the
8 life of the plan.

9 (B) Age of road and the history of sediment delivery from
10 existing roads.

11 (C) Beneficial uses of the watercourse or lake and
12 sensitive conditions potentially affected by the road including, among
13 other things, watercourse classification and presence of listed
14 anadromous salmonids.

15 (D) The hillslope grade, road grade of crossing approaches
16 and the gradient of the stream channel.

17 (E) The erodibility of hillslope material exposed by the
18 road, NMFS OPTION 1/3/11 including mass wasting potential of roads in
19 unstable areas such as, but not limited to inner gorges and headwall
20 swales.

21 (F) The length of hydrologic connectivity of a road
22 segment, the physical properties of the connected segment and the
23 presence or absence of a sediment filter strip along the connected
24 segment.

25 (G) Site-specific information regarding the condition of
and location of all existing or potential sediment sources including,

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1 but not limited to: watercourse crossings, road approaches, ditch
2 relief culverts, road surfaces, road cuts, road fills, inboard
3 ditches, through-cuts, and landings.

4 (4) The RPF shall describe in the plan feasible protection
5 measures and treatments for identified sensitive conditions that could
6 be affected by roads and landings.

7 (5) A list of the significant existing and potential erosion
8 sites identified in 14 CCR § 923.1 [943.1, 963.1], subsection (d)(2)
9 which have feasible treatments shall be submitted with the plan and
10 shall require the following information:

11 (A) A map showing the location(s) of significant existing
12 and potential erosion site(s) with a unique identifier for each site.¹⁸

13 (B) Brief description of present condition of the mapped
14 significant existing or potential erosion site.

15 (C) Brief description of proposed treatments for the mapped
16 significant existing or potential erosion site.

17 (D) Items (B) and (C) above can be provided in tabular form
18 as part of the plan.

19 (6) Disclose and map the significant existing and potential
20 erosion sites¹⁹ identified in 14 CCR § 923.1 [943.1, 963.1], subsection
21 (d)(2), for which no feasible treatment measures exist.

22 _____
23 ¹⁸ The FPC intent for listing significant existing and potential erosion site(s) with a
24 unique identifier for each site is to allow multiple sites to be grouped together as a
single site when descriptions or treatments are all the same for the general
location.

25 ¹⁹ The FPC requested inclusion of item (6) which requires listing significant
erosion sites that are not planned to be treated. This is necessary to
provide a more complete picture to Plan reviewers of impacts related to
roads.

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1 (7) Where feasible treatments for significant existing or
2 potential erosion site are proposed, the RPF shall submit a schedule
3 that prioritizes a logical order of treatment. Prioritization of
4 treatments shall be given to sites with increasing erosion risks.

5 (e) When selecting feasible alternatives (see 14 CCR §§ 897 and 898)
6 during the planning phase of logging roads and landings, the RPF shall
7 consider the location and planned use of logging roads and landings
8 and whether such logging roads and landings will be abandoned or
9 deactivated.

10 (f) (RRFT Option)²⁰ In watersheds with listed anadromous salmonids and
11 in planning watersheds immediately upstream of, and contiguous to, any
12 watershed with listed anadromous salmonids, where logging road or
13 landing construction or reconstruction is proposed, the plan shall
14 identify:

15 (1) How the proposed operations will fit into the systematic
16 layout pattern.

17 (2) What, if any, offsetting mitigation measures, including but
18 not limited to, abandonment of logging roads and landings, are needed
19 to minimize potential adverse impacts to watersheds from the road
20 system.

21 (g) In watersheds with listed anadromous salmonids no logging roads
22 or landings shall be planned for construction or reconstruction in the
23 CMZ or Core Zone of a Class I watercourse except those listed in 14
24 _____

25 ²⁰ FPC decision point from April 2010: Use optional language for consistency with preamble to intent sections in 923. Deletes language adopted in ASP rules in 2009.

2-18-11 Road Rules Task Force Plead with FPC edits

1 CCR § 916.9(e)(1)(A)-(E) [936.9(e)(1)(A)-(E), 956.9(e)(1)(A)-(E)] or
2 pursuant to 14 CCR § 916.9(v) [936.9(v), 956.9(v)].

3 (h) In watersheds with listed anadromous salmonids within the Inner
4 Zone A and B of flood prone areas of Class I watercourses the
5 following Preferred Management Practices should be considered for
6 inclusion in the plan by the RPF and by the Director:

7 (1) Constructed and reconstructed logging roads and landings
8 should not be planned for location within these zones.

9 (2) When feasible, planned use of existing logging roads and
10 landings should be minimized in the flood prone area.

11 (3) Exceptions include the use of roads and landings to
12 accomplish actions to improve salmonid habitat conditions stated in 14
13 CCR § 916.9(f)(3)(E)(1) [936.9(f)(3)(E)(1), 956.9(f)(3)(E)(1)].

2-18-11 Road Rules Task Force Plead with FPC edits

1 Amend § 923.2 [943.2, 963.2]. Design and Implementation for Logging
2 Roads and Landings Road Construction.

3 Constructed and reconstructed logging roads and landings²¹ shall be
4 designed and implemented in accordance with their proposed use,
5 maintenance requirements, and the approved plan:

6 (a) All logging roads and landings shall:

7 (1) Avoid or mitigate potential impacts to public safety.

8 (2) Avoid unstable areas and connected headwall swales and
9 minimize activities that adversely affect them.

10 (3) Minimize cuts and fills to the extent feasible.

11 (4) Be outsloped where feasible and drained with waterbreaks or
12 rolling dips in conformance with other applicable Forest Practice
13 Rules.

14 (5) Be hydrologically disconnected from watercourses and lakes to
15 the extent feasible.²²

16 (6) Include adequate drainage structures and facilities²³ necessary
17 to avoid concentrating and diverting runoff, to minimize erosion of
18 roadbeds, landing surfaces, drainage ditches, sidecast and fills, to
19 minimize the potential for soil erosion and sediment transport, and to
20 prevent the discharge of sediment into watercourses and lakes in

21 _____
22 ²¹ FPC decision point from May 2010: Rejected DFG comments to widen
23 application of design standards to ALL roads and instead retained focus on
24 roads to be constructed or reconstructed.

25 ²² FPC decision point from May 2010: Inserts portion of DFG recommendation to
include requirement for "hydrological disconnection. Other specifics on how
to accomplish hydro-disconnection were not accepted by FPC.

²³ FPC decision point from May 2010: Rejects DFG option to include "road
rocking" as a method for adequate drainage structure. FPC desires to retain
performance standard language to allow maximum flexibility to implement
technologies that accomplish the intent of sections to provide adequate
drainage structures and facilities.

2-18-11 Road Rules Task Force Plead with FPC edits

1 quantities deleterious ~~CGS OPTION~~ that violate Water Quality
2 requirements or result in significant NMFS OPTION: individual or
3 cumulative adverse impacts to the beneficial uses of water.

4 (7) Avoid crossing, or locations on, 100 feet or more of lineal
5 distance over any slopes greater than 65 percent or within 100 feet of
6 the boundary of a WLPZ on slopes greater than 50 percent that drain
7 toward the zoned watercourse or lake. Where logging road or landing
8 construction or reconstruction is necessary in these areas, specific
9 measures to minimize movement of soil and the discharge of
10 concentrated surface runoff shall be incorporated in the plan. The
11 Director may waive inclusion of such measures where the RPF can show
12 that slope depressions, drainage ways, and other natural retention and
13 detention features are sufficient to control overland transport of
14 eroded material.

15 (b) The Director may require removal of deposits of excess material
16 if the deposits are in a position to adversely affect the beneficial
17 uses of water and if the removal of the material is feasible.

18 (c) Excess material excavated during logging road and landing
19 construction shall not be transported to disposal sites where it will
20 discharge into a watercourse or lake in quantities ~~CGS OPTION~~
21 ~~deleterious~~ that violate Water Quality Requirements or result in
22 significant NMFS OPTION: individual or cumulative adverse impacts to
23 the beneficial uses of water.

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1 (d) In addition to the requirements of subsection (a) above, all
2 constructed and reconstructed logging roads shall:

3 (1) Be no wider than a single-lane compatible with the largest
4 type of equipment specified for use on the logging road, with adequate
5 turnouts provided as required for safety unless prohibited by existing
6 contracts with the U.S.D.A. Forest Service or other federal agency.

7 (2) Avoid grades greater than 20% or grades greater than 15% that
8 extend greater than 500 continuous feet. Exceptions may be approved
9 where there is no other feasible access for harvesting of timber or
10 where use of a gradient greater than 20% will serve to reduce soil
11 disturbance.

12 (e) In addition to the requirements of subsection (a) above, all
13 constructed and reconstructed landings shall:

14 (1) Be consistent with the yarding and loading system to be
15 used.

16 (2) Be no larger than one-half acre.

17 (3) Avoid construction on slopes greater than 40 percent where
18 the landing will exceed one-quarter acre in size.

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1 Amend § 923.3 [943.3, 963.3]. Mapping and Identification for Logging
2 Roads and Landings ~~Watercourse Crossings~~.

3 The following mapping and identification standards shall apply to
4 logging roads and landings:

5 (a) For logging road- and landing-related mapping requirements refer
6 to 14 CCR §§ 1034(x)(4)(A)-(B) and (5)(A)-(L), 1090.5(w)(4)-(6),
7 1090.5(hh), 1090.7(n)(4)-(6), and 1092.09(1)(5)(A)-(B) and (6)(A)-(L).

8 (b) For logging road- and landing-related disclosure and description
9 requirements refer to 14 CCR §§ 1034(bb), **Option 1** 1034(hh) (**Option 2**
10 If **Option 1** under 1034(hh) is not adopted, do not adopt **Option 1**),
11 1034(ii)(1)-(5), 1034(jj)(1)-(17), 1034(kk)(1)-(3) and (4)(A),
12 1034(mm) and 1090.5(gg).

13 (c) **Option 1** For logging road- and landing-related identification
14 requirements refer to 14 CCR § 1034(hh). (**Option 2** If **Option 1** under
15 1034(hh) is not adopted, do not adopt the contents of subsection
16 923.3(c) [943.3(c), 963.3(c)] proposed under **Option 1** and and begin
17 re-numbering subsection (d) as (c) and (e) as (d).)

18 (d) The RPF shall identify in the field all constructed and
19 reconstructed logging roads and landings:

20 (1) Across slopes greater than 65 percent for 100 lineal feet
21 or more.

22 (2) Across slopes greater than 50 percent for 100 lineal feet
23 or more within 100 feet of the boundary of a WLPZ that drains toward
24 the zoned watercourse or lake.

25 (e) The location of all logging roads to be constructed or
reconstructed shall be flagged or otherwise identified on the ground

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1 RRFT OPTION 1: before submission of a plan or substantial deviation
2 (RRFT OPTION 2: prior to the pre-harvest inspection, if necessary, or
3 prior to logging road construction or reconstruction). Exceptions may
4 be explained and justified in the plan and agreed to by the Director
5 if flagging is unnecessary as a substantial aid to examining: (1)
6 compatibility between logging road location and yarding and
7 silvicultural systems, or (2) possible significant adverse effects of
8 logging road location on the factors listed under 14 CCR § 923(b)
9 [943(b), 963(b)].

10
11 Amend § 923.4 [943.4, 963.4]. Construction and Reconstruction for
12 Logging Roads and Landings Road Maintenance.

13 Logging roads and landings shall be constructed or reconstructed in
14 accordance with the approved plan and the following requirements. If
15 a change in designation of logging road classification is made after
16 the plan is approved, the change shall be reported in accordance with
17 14 CCR §§ 1039, 1040, 1090.14, 1092.26 or 1092.27, as appropriate.

18 (a) Logging roads and landings shall not be constructed or
19 reconstructed where such operations pose a significant risk to public
20 safety.

21 (b) Logging roads or landings shall not be constructed or
22 reconstructed in Class I, II, III, or IV watercourses or lakes, the

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1 WLPZ, marshes, wet meadows, or other wet areas, except for logging
2 road watercourse crossings or as specified in the plan.²⁴

3 (c) Logging roads and landings shall not be constructed or
4 reconstructed across unstable areas or connected headwall swales.

5 (d) Logging roads and landings shall not be constructed with
6 overhanging banks.

7 (e) Any tree over 12 inches dbh with more than 25 percent of the root
8 surface exposed by logging road or landing construction shall be
9 felled concurrently with the timber operations.

10 (f) On slopes greater than 40 percent, the organic layer of the soil
11 shall be removed prior to fill placement.

12 (g) Waste organic material, such as uprooted stumps, cull logs,
13 accumulations of limbs and branches, and unmerchantable trees, shall
14 not be buried in logging road or landing fills. Wood debris or cull
15 logs and chunks may be placed and stabilized at the toe of fill to
16 restrain excavated soil from moving downslope.

17 (h) Slash and other debris from road construction shall not be
18 bunched against residual trees, which are required for silvicultural
19 or wildlife purposes, nor shall it be placed in locations where it
20 could be discharged into Class I or II watercourses or lakes.

21 (i) Where constructed fills will exceed three feet in vertical
22 thickness, fill slopes shall be inclined no greater than 65 percent.

23
24
25

²⁴ Option for 150 foot distance from WTL for new road construction recommended by Staff and science team.

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1 (j) **RRTF Proposal of 3/2/10:** Logging roads or landings shall not be
2 constructed or reconstructed under saturated soil conditions, except
3 that construction may occur on isolated wet spots arising from
4 localized ground water such as springs, provided measures are taken to
5 minimize soil erosion and sediment transport and to prevent the
6 discharge of sediment into watercourses and lakes in quantities **CGS**
7 **OPTION** ~~deleterious~~ that violate Water Quality Requirements or result
8 in significant **NMFS OPTION: individual or cumulative** adverse impacts
9 to the beneficial uses of water.

10 (1) Construction or reconstruction operations shall not be
11 conducted when saturated soils do not allow meeting standard
12 engineered compaction methods.²⁵

13 (j) **Staff OPTION:** Logging roads or landings shall not be constructed
14 or reconstructed under saturated soil conditions. Road or landings
15 construction or reconstruction may occur on isolated wet spots
16 provided measures, as specified in the THP, are taken to prevent
17 significant discharge of sediment to watercourses or lakes.

25 ²⁵ Subsection 923.4 (j)(1) is added to ensure that construction standards are maintained during operations on saturated soils.

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1 (j)²⁶ CAL FIRE OPTION from 8/23/10 comment Logging roads or landings
2 shall not be constructed or reconstructed under saturated soil
3 conditions. Road or landings construction or reconstruction may occur
4 on isolated wet spots provided measures, as specified in the THP, are
5 taken to prevent sediment discharge that may reach watercourses or
6 lakes.

7 (j)²⁷ BOF Adopted language 9/7/10 Logging roads or landings shall not
8 be constructed or reconstructed under saturated soil conditions that
9 may produce sediment in quantities sufficient to cause a visible
10 increase in turbidity of downstream waters in receiving Class I, II,
11 III or IV waters or that violate Water Quality Requirements, except
12 that construction may occur on isolated wet spots arising from
13 localized ground water such as springs, provided measures are taken to
14 prevent material from significantly damaging water quality.

20
21 ²⁶ Option incorporates Cal Fire recommended rule changes submitted to the
22 board on August 23, 2010. The changes address sediment discharge risks
23 associated with operations on saturated soils. The amendments also ensure
24 better enforcement of operation on saturated soils as the current definition
of saturated soils is easy to understand, can be applied consistently by Cal
Fire inspectors, and avoids subjective interpretations of "potential"
discharges.

25 ²⁷ The language shown is a combination of 923.2 (r) and 923.5 (e) that were
adopted by the BOF on 9/7/10. These two sections are existing Firs for
construction of roads and construction of landings. They were merged here to
consistency with e format the RRTF suggested.

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1 (k) Construction or reconstruction of logging roads or landings
2 shall not take place during the winter period unless the approved plan
3 incorporates a complete winter period operating plan pursuant to 14 §
4 CCR 914.7 [934.7, 954.7], subsection (a) that specifically addresses
5 such logging road or landing construction or reconstruction.

6 (1) On slopes greater than 50 percent for greater than 100 lineal
7 feet, fills greater than four feet in vertical height at the outside
8 shoulder of the logging road or landing shall be:

9 (1) Constructed on a bench that is excavated at the proposed toe
10 of the fill and is wide enough to compact the first lift.

11 (2) Compacted in approximately one-foot lifts from the toe to the
12 finished grade or retained by an engineered structure.

13 (m) Logging roads and landings shall not be constructed or
14 reconstructed across 100 feet or more of lineal distance on any slope
15 greater than 65 percent or within 100 feet of the boundary of a WLPZ
16 on slopes greater than 50 percent that drain toward the zoned
17 watercourse or lake unless specific construction techniques or
18 measures are described in the plan.

19 (n) Fills shall not be constructed on slopes greater than 65 percent.

20 (o) On slopes greater than 65 percent, sidecast from logging road and
21 landing construction shall be minimized to the degree feasible.

22 (p) Excess material transported from logging road or landing
23 construction or reconstruction shall be deposited and stabilized in a
24 manner and in areas that avoid potential adverse impacts to:

25 (1) Public safety.

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1 (2) Areas that could deliver sediment into a watercourse or
2 lake in quantities ~~CGS OPTION deleterious~~ that violate Water Quality
3 Requirements or result in significant **NMFS OPTION: individual or**
4 **cumulative** adverse impacts to the beneficial uses of water.

5 (q) Where conditions are encountered during logging road or landing
6 construction or reconstruction that differ from what was anticipated
7 during the preparation and review of the plan and that will result in
8 a significant adverse impact on the environment or to public safety,
9 the LTO shall inform the RPF or plan submitter of these unanticipated
10 conditions in accordance with 14 CCR § 1035.3. If necessary, the
11 responsible RPF or plan submitter shall submit to the Director a
12 deviation to the plan describing the unanticipated conditions and
13 proposing appropriate actions.

14 (r) In watersheds with listed anadromous salmonids, no logging
15 roads or landings shall be constructed or reconstructed within the CMZ
16 or Core Zone of a Class I watercourse except for those listed in 14
17 CCR § 916.9([936.9, 956.9]subsections (e)(1)(A)-(F) or pursuant to 14
18 CCR § 916.9[936.9, 956.9], subsection (v).

19 (s) In watersheds with listed anadromous salmonids and in planning
20 watersheds immediately upstream of, and contiguous to, any watershed
21 with listed anadromous salmonids, the following shall apply:

22 (1) On slopes greater than 50 percent that have access to a
23 watercourse or lake:

24 (A) Specific provisions shall be identified and described
25 for all logging road construction.

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1 (B) Where cutbank stability is not an issue, logging roads
2 may be constructed as a full-benched cut (no fill). Spoils not
3 utilized in logging road construction shall be disposed of in stable
4 areas with less than 30 percent slope outside of any WLPZ, EEZ, or ELZ
5 designated for watercourse or lake protection. The Director, with
6 concurrence from other responsible agencies, may waive inclusion of
7 these measures where the RPF can show that slope depressions and other
8 natural retention and detention features are sufficient to control
9 overland transport of eroded material.

10 (C) Logging roads may be constructed with balanced cuts and
11 fills:

12 (i) If properly engineered, or,
13 (ii) If fills are removed and the slopes recontoured
14 prior to the winter period.

15 (2) During the extended wet weather period, no timber
16 operations shall take place unless the approved plan incorporates
17 a complete winter period operating plan pursuant to 14 CCR §
18 914.7[934.7, 954.7]subsection (a) that specifically addresses,
19 where applicable, proposed logging road or landing construction,
20 reconstruction. ²⁸

21 _____
22 ²⁸ DFG comment for adding 923.4 (s) (3) contained in the May 20 2010
23 version was deleted(**(3 DFG Option)** No road or landing construction,
24 reconstruction, or decommissioning shall be undertaken during the extended wet
25 weather period, or at any time outside this period when saturated soil
conditions exist, except on hydrologic ally disconnected road segments.) The
subsection was deleted because it content is already contained in 923.4 (j) and
923.4 (s) (2). The mention of hydrologic disconnection was added by the FPC in
923.2 (a) (5)

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1 Amend § 923.5 [943.5,963.5]. Erosion Control for Logging Roads and
2 Landings ~~Landing Construction~~.

3 The following erosion control standards shall apply to logging roads
4 and landings:

5 (a) All logging road and landing surfaces shall be adequately drained
6 through the use of surface geometry configurations in combination with
7 the installation of drainage structure or facilities²⁹ and shall be
8 hydrologically disconnected from watercourses and lakes to the extent
9 feasible.³⁰

10 (b) Drainage facilities or ditch drains shall be installed along all
11 logging roads and all landings that are used for timber operations in
12 sufficient number to minimize soil erosion and sediment transport and
13 to prevent the discharge of sediment into watercourses and lakes in
14 quantities ~~CGS OPTION-deleterious~~ that violate Water Quality
15 Requirements or result in significant NMFS OPTION: individual or
16 cumulative adverse impacts to the beneficial uses of water.

17 (c) Ditch drains, associated necessary protective structures, and
18 other features associated with the ditch drain shall:

19 (1) Be adequately sized to transmit runoff.

20 (2) Minimize erosion of logging road and landing surfaces.

21 (3) Avoid discharge onto fill.

22 (4) DFG Option: Drain to stable sediment filter strips³¹.

23 ²⁹ Added "facilities for consistency with other sections. This is a more encompassing
24 term for all type of drainage features associated with a road.

25 ³⁰ Amendments to subsection 923.5 (a) were added to include the CGS amendment for
hydrologic disconnection for drainage facilities.

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1 (4)(5) Minimize potential adverse impacts to slope stability.

2 (d) Waterbreaks and rolling dips installed across logging roads and
3 landings shall be of sufficient size and number and be located to DFG
4 Option: drain to stable sediment filter strips and³² avoid collecting
5 and discharging concentrated runoff onto fills, erodible soils,
6 unstable areas, and connected headwall swales.

7 (e) Where logging roads or landings do not have permanent and
8 adequate drainage, and where waterbreaks are to be used to control
9 surface runoff, the waterbreaks shall be cut diagonally a minimum of
10 six inches into the firm roadbed and shall have a continuous firm
11 embankment of at least six inches in height immediately adjacent to
12 the lower edge of the waterbreak cut. On logging roads that have
13 firmly compacted surfaces, waterbreaks may be installed by hand
14 methods and need not provide the additional six-inch embankment
15 provided the waterbreak ditch is constructed so that it is at least
16 six inches deep and six inches wide on the bottom and provided there
17 is ample evidence based on slope, material, amount of rainfall, and
18 period of use that the waterbreaks so constructed will be effective in
19 diverting water flow from the logging road surface without the
20 embankment.

21
22
23
24 ³¹ CGS recommends rejection of these Options as it is covered in 923.5 (h)

25 ³² CGS recommends rejection of these Options as it is covered in 923.5 (h).

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(f) **RRTF Option 1:** Distances between waterbreaks shall not exceed the standards specified in 14 CCR § 914.6(c) [(934.6(c), 954.6(c))].

RRTF Option 2: Distances between waterbreaks shall not exceed the following standards:

MAXIMUM DISTANCE BETWEEN WATERBREAKS			
Estimated Hazard Rating	Logging Road	Gradient in Percent	
	10 or less	11-25	>25
	Feet	Feet	Feet
Extreme	100	75	50
High	150	100	75
Moderate	200	150	100
Low	300	200	150)

(g) Where outsloping and rolling dips are used to control surface runoff, the dip in the logging road grade shall be sufficient to capture runoff from the logging road surface. The steepness of cross-slope gradient in conjunction with the logging road or landing gradient and the estimated soil erosion hazard rating shall be used to determine the rolling dip spacing in order to minimize soil erosion and sediment transport and to prevent the discharge of sediment into watercourses and lakes in quantities ~~CGS OPTION-deleterious that violate Water Quality Requirements or result in significant NMFS~~ **OPTION: individual or cumulative** ~~adverse impacts~~ to the beneficial uses of water.

(h) Drainage facilities and ditch drains shall discharge into vegetation or rock wherever possible. Where erosion-resistant material is not present, slash, rock, or other energy dissipating material shall be installed below the drainage facility or drainage structure outlet.

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1 (ii) indexing placeholder) (CGS Option revised by FPC on 10/6/10)

2 Where logging road and landing surfaces, road approaches³³, inside
3 ditches and drainage structures cannot be hydrologically disconnected,
4 and where there is existing or potential discharge of sediment to
5 watercourses or lakes in quantities that violate Water Quality
6 Requirements or result in significant adverse impacts to the
7 beneficial uses of water , necessary and feasible treatments to
8 prevent the discharge will be described in the plan.

9 (i) All logging roads and landings used for timber operations shall
10 have adequate drainage upon completion of use for the year or by
11 October 15, whichever is earlier. An exception is that drainage
12 facilities and drainage structures do not need to be constructed on
13 logging roads in use ~~after October 15~~ during the extended wet weather
14 period provided that all such drainage facilities and drainage
15 structures are installed prior to the start of rain that generates
16 overland flow.

17 (j) Where logging road or landing construction or reconstruction
18 takes place ~~from October 15 to May 1~~ during the extended wet weather
19 period, drainage facilities and drainage structures shall be installed
20 concurrent with construction or reconstruction operations.

21 _____

22 ³³ Inclusion this subsection recommended by the FPC in at the July 6th, 2010
23 committee meeting is to address surface erosion and for roads in all
24 locations. Amendments were made to this section as a result of discussion at
25 August 27 2010 RRTF subcommittee meeting. This subsection is currently being
addressed and similar requirements for ASP watersheds. On 9/7/10, the FPC
included the term "Road Approaches" to the subsection to ensure clarity and
focus attention on the critical need to address road approaches for surface
erosion preventions. Also at this meeting the FPC directed staff to
reorganize the wording for clarity and proper language usage.

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1 (k) Bare soil on logging road or landing cuts, fills, transported
2 spoils, or sidecast that is created or exposed by timber operations
3 shall be stabilized to the extent necessary to minimize soil erosion
4 and sediment transport and to prevent the discharge of sediment into
5 watercourses and lakes in quantities ~~CGS OPTION-deleterious that~~
6 violate Water Quality Requirements or result in significant NMFS
7 OPTION: individual or cumulative adverse impacts to the beneficial
8 uses of water. Bare soil stabilization treatments for road surfaces
9 are addressed in other subsection.³⁴ Sites to be stabilized include,
10 but are not limited to:

11 (1) Sidecast or fill exceeding 20 feet in slope distance from
12 the outside edge of a logging road or a landing that has access to a
13 watercourse or lake.

14 (2) Cut and fills associated with approaches to logging road
15 watercourse crossings³⁵ of Class I or II waters or Class III waters
16 where an ELZ, EEZ, or a WLPZ is required.

17 (3) Bare areas exceeding 800 continuous square feet within a
18 WLPZ.

22 ³⁴ Recommended edits based RRRTF meeting 8/26/10. Clarifies that this is
23 section is intended to apply to portions of the road other than the road
24 surface. Requirements for treating road surfaces are dealt with in other
25 subsections.

³⁵ Recommended edits based RRRTF meeting 8/26/10. Clarifies that this is
section is intended to apply to portions of the road other than the road
surface. Requirements for treating road surfaces are dealt with in other
subsections.

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1 (l) Soil stabilization measures shall be described in the plan
2 pursuant to 14 CCR 923.5(k)[943.5,963.5], subsection (k) and may
3 include, but are not limited to, removal, armoring with rip-rap,
4 replanting, mulching, seeding, installing commercial erosion control
5 devices to manufacturer's specifications, or chemical stabilizers.

6 (m) Where the natural ability of ground cover within a WLPZ is
7 inadequate to protect the beneficial uses of water by minimizing soil
8 erosion or by filtering sediments, the plan shall specify protection
9 measures to retain and improve the natural ability of the ground cover
10 to filter sediment and minimize soil erosion.

11 (n) Soil stabilization treatments shall be in place upon completion
12 of operations for the year of use or prior to ~~October 15~~ the extended
13 wet weather operating period, whichever comes first. An exception is
14 that bare areas created ~~after October 15~~ during the extended wet
15 weather operating period shall be treated within 10 days or as agreed
16 to by the Director.

17 (o) Overhanging or unstable concentrations of slash, woody debris or
18 soil along the downslope edge or face of landings shall be removed or
19 stabilized when it is located on slopes greater than 65 percent or
20 within 100 feet of the boundary of a WLPZ on slopes greater than 50
21 percent that drain toward the zoned watercourse or lake. Removed
22 materials shall not be placed at disposal sites that could discharge
23 into a watercourse or lake in quantities ~~CGS OPTION-deleterious that~~
24 violate Water Quality Requirements or result in significant **NMFS**
25 **OPTION: individual or cumulative** adverse impacts to the beneficial
uses of water.

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1 (p) In watersheds with listed anadromous salmonids and in planning
2 watersheds immediately upstream of, and contiguous to, any watershed
3 with listed anadromous salmonids, the following shall apply:

4 (1) Constructed and reconstructed logging roads shall be
5 outsloped where feasible and drained with waterbreaks or rolling dips

6 **CGS OPTION** ~~(where the road grade is inclined at seven (7) percent or~~
7 ~~less)~~ in conformance with other applicable Forest Practice Rules.

8 (2) In addition to the provisions listed under 14 CCR §
9 923.2(d)(2) [943.2(d)(2), 963.2(d)(2)], all permanent and seasonal
10 logging roads with a grade of 15 percent or greater that extend 500
11 continuous feet or more shall have specific erosion control measures
12 stated in the plan.

13 (3) Within the WLPZ, and within any ELZ or EEZ designated for
14 watercourse or lake protection, treatments to stabilize soils,
15 minimize soil erosion, and prevent the discharge of sediment into
16 watercourses or lakes in quantities **CGS OPTION** ~~that violate Water~~
17 ~~Quality Requirements or result in significant~~ **NMFS OPTION: individual**
18 **or cumulative** ~~adverse impacts to the beneficial uses of water~~
19 ~~deleterious to aquatic species or the quality and beneficial uses of~~
20 ~~water, or that threaten to violate applicable water quality~~
21 requirements shall be described in the plan as follows:

22 (A) In addition to the requirements of subsections (k)-
23 (o), soil stabilization is required for the following areas:

24 (i) Areas exceeding 100 continuous square feet where
25 timber operations have exposed bare soil, and

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1 (ii) Disturbed logging road and landing cut banks and
2 fills, and

3 (iii) Any other area of disturbed soil that threatens
4 to discharge sediment into water in quantities ~~CGS OPTION deleterious~~
5 that violate Water Quality Requirements or result in significant **NMFS**
6 **OPTION: individual or cumulative** adverse impacts to the beneficial uses
7 of water.

8 (B) Where straw mulch is used, the minimum straw coverage
9 shall be 90 percent, and any treated area that has been reused or has
10 less than 90 percent surface cover shall be treated again by the end
11 of timber operations.

12 (C) Where slash mulch is packed into the ground surface
13 through the use of a tractor or equivalent piece of heavy equipment
14 the minimum slash coverage shall be 75 percent , and any treated area
15 that has been reused or has less than 75 percent surface cover shall
16 be treated again by the end of timber operations.

17 (D) For areas disturbed ~~from May 1 to October 14~~ outside
18 of the extended wet weather period, treatment shall be completed prior
19 to the start of any rain that causes overland flow across or along the
20 disturbed surface that could deliver sediment into a watercourse or
21 lake in quantities ~~CGS OPTION deleterious that violate Water Quality~~
22 Requirements or result in significant **NMFS OPTION: individual or**
23 **cumulative** adverse impacts to the beneficial uses of water.

24 (E) For areas disturbed ~~from October 15 to May 1~~ during
25 the extended wet weather period, treatment shall be completed prior to
any day for which a chance of rain of 30 percent or greater is

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1 forecast by the National Weather Service or within 10 days of
2 disturbance, whichever is earlier.

3 (F) Where the natural ability of ground cover is
4 inadequate to protect the beneficial uses of water by minimizing soil
5 erosion or by filtering sediments within any ELZ or EEZ designated for
6 watercourse or lake protection, the plan shall specify protection
7 measures to retain and improve the natural ability of the ground cover
8 to filter sediment and minimize soil erosion.

9 (4) DFG Option: Logging road approach surfaces that are not
10 hydrologically disconnected for permanent roads shall consist of high-
11 quality, durable, compacted rock or paving except where site-specific
12 alternatives are explained, justified and approved by the Director³⁶.

13 (5) Logging road approach surfaces not hydrologically
14 disconnected for seasonal roads crossing Class I watercourses or any
15 roads used for hauling by heavy equipment during the extended wet weather
16 period shall consist of high-quality, durable, compacted rock or paving
17 when one or more of the following factors³⁷ are present. Exceptions where
18 site-specific alternatives are explained, justified may be approved by
19 the Director:

20 (i) New road construction or there is a history of
21 significant sediment delivery from existing roads.

22 (ii) High volume of use (discussion needed on specifics).

24 ³⁶ Adds "opt-out" language for use by RPF to use an alternative to rocking
25 approaches.

³⁷ Presence of any one of these factors would "trigger" the rocking of road
approach surface. Age of road, wet weather use, traffic levels, parent
material, and road gradient were identified as critical factors by the RRTF.

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1 (iii) The road grade of road approaches exceeds 7 %
2 gradient.

3 (iv) The hillslope and road surface exposed is composed of
4 highly erodible material as such as decomposed granite.

5 **(6) Logging road approach surfaces on (i) all seasonal roads**
6 **used for hauling in the current year, (ii) all seasonal roads used**
7 **during the extended wet weather period for purposes other than hauling**
8 **shall be treated with either: rock, slash, seed and straw mulch, seed**
9 **and stabilized straw, or seed and slash.**

10 **(7) Logging road approaches to temporary crossings shall be**
11 **stabilized and maintained after crossing removal to avoid rutting or**
12 **pumping fines during administrative use after removal.**

13 **(8) Logging road approach ditches exhibiting downcutting for**
14 **(i) permanent logging roads, (ii) seasonal roads crossing Class I**
15 **watercourses, and (iii) logging roads used for hauling during the**
16 **extended wet weather period shall be lined with high-quality, durable**
17 **rock, installed with erosion control materials or structures to**
18 **manufacturers specifications, or treated with other effective means as**
19 **described in the plan.**

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1 Amend § 923.6 [943.6, 963.6]. Use of Logging Roads and Landings

2 ~~Conduct of Operations on Roads and Landings.~~

3 The following use standards shall apply to logging roads and
4 landings:

5 (a) Logging roads and landings shall be used in a manner that is
6 consistent with their design and construction specifications.

7 (b) Logging roads and landings shall not be used when conditions that
8 could result in sediment discharge into watercourses or lakes in
9 quantities ~~CGS OPTION deleterious that violate Water Quality~~
10 Requirements or result in significant **NMFS OPTION: individual or**
11 **cumulative** adverse impacts to the beneficial uses of water, except in
12 emergencies to protect the road, to reduce erosion, to protect water
13 quality, or in response to public safety needs.

14 (c) Logging roads and landings shall not be used when, due to general
15 wet conditions, equipment cannot operate under its own power. Use may
16 occur when logging roads and landings are generally firm and easily
17 passable or during hard frozen conditions. Isolated wet spots on
18 these logging roads or landings shall be rocked or otherwise treated
19 to permit passage.

20 (c) **Staff Option:** Logging roads and landings shall not be used
21 when, due to general wet conditions, equipment cannot operate under
22 its own power. Use may occur when logging roads and landings are
23 generally firm and easily passable or during hard frozen conditions.
24 Isolated wet spots on these logging roads or landings shall be rocked
25 or otherwise treated to permit passage. ~~However, use shall not occur~~

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1 when operation may result in significant discharge of sediment
2 discharged to watercourses or lakes.

3 (c) CAL FIRE 8/23/10 comment: Logging roads and landings shall not be
4 used when, due to general wet conditions, equipment cannot operate
5 under its own power. Use may occur when logging roads and landings
6 are generally firm and easily passable or during hard frozen
7 conditions. Isolated wet spots on these logging roads or landings
8 shall be rocked or otherwise treated to permit passage. However, use
9 shall not occur when sediment discharged from landings or roads may
10 reach watercourses or lakes.³⁸

11 (d) When burning permits are required pursuant to PRC § 4423, logging
12 roads and landings that are in use shall be kept in passable condition
13 for fire trucks.

14 (e) All roadside berms shall be removed or breached before the
15 beginning of the winter period, with the exception of berms needed for
16 erosion control.

17 (f) Temporary roads shall be blocked or otherwise closed (RRTF Option
18 1) to normal vehicular traffic (RRTF Option 2) standard production
19 four-wheel drive highway vehicles) prior to the winter period.

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24 ³⁸ Option incorporates Cal Fire recommended rule changes submitted to the
25 board on August 23, 2010. The changes address the need for uniform
terminology, greater brevity, and consistency with other rule standards for
protection of beneficial uses of water.

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1 (g) Logging roads and landings shall not be used for log hauling
2 between October 15 and May 1 when saturated soil conditions result in
3 soil erosion and sediment transport that could discharge sediment into
4 watercourses and lakes in quantities ~~CGS OPTION-deleterious that~~
5 violate Water Quality Requirements or result in significant NMFS
6 OPTION: individual or cumulative adverse impacts to the beneficial uses
7 of water.

8 (g) Staff Option: Logging roads and landings shall not be used for
9 log hauling between October 15 and May 1 when saturated soil
10 conditions exist on the road. Log hauling may occur on isolated wet
11 spots provided measures, as specified in the THP, are taken to prevent
12 significant discharge of sediment to watercourses or lakes.

13 (g)³⁹ CAL FIRE Option from 8/23/10 comment: Logging roads and
14 landings shall not be used for log hauling between October 15 and May
15 1 when saturated soil conditions exist on the road. Log hauling may
16 occur on isolated wet spots provided measures, as specified in the
17 THP, are taken to prevent sediment discharge that may reach
18 watercourses or lakes.

23 ³⁹ Option incorporates Cal Fire recommended rule changes submitted to the
24 board on August 23, 2010. The changes address sediment discharge risks
25 associated with operations on saturated soils. The amendments also ensure
better enforcement of operation on saturated soils as the current definition
of saturated soils is easy to understand, can be applied consistently by Cal
Fire inspectors, and avoids subjective interpretations of "potential"
discharges.

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1 (g)⁴⁰ OPTION BOF language adopted on 9/7/10 Logging roads and landings
2 shall not be used for log hauling between October 15 to May 1 when
3 saturated soil conditions exist on the road that may produce sediment
4 in quantities sufficient to cause a visible increase in turbidity of
5 downstream waters in receiving Class I, II, III or IV waters or that
6 violate Water Quality Requirements.

7 (h) RRTF proposal 3/2/10: Logging roads and landings used for log
8 hauling during the winter period shall be, where necessary, surfaced
9 with rock to a depth and quantity sufficient to maintain a stable road
10 surface throughout the period of use.

11 (h) Staff Option: Logging roads and landings used during the
12 extended wet weather period shall be, where necessary, surfaced with
13 rock to a depth and quantity sufficient to maintain a stable operating
14 surface throughout the period of use. Road and landing use may occur
15 on isolated wet spots provided measures, as specified in the THP, are
16 taken to prevent significant discharge of sediment to watercourses or
17 lakes.

21 ⁴⁰ OPTION is BOF language adopted on 9/7/10 in the "Operation on Saturated
22 Soils and Stable Operation Surface, 2010" regulation. Option uses the
23 introductory language proposed by the RRFT and incorporates the 9/7/10
24 language on sediment discharge. Staff's recommendation is that whichever
25 Option is selected on sediment discharge, (the CGS/RRTF's, CAL FIRE Option,
or BOF Option) it be routinely used throughout the Road Rules 2011 proposal.

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1 (h)⁴¹ OPTION CAL FIRE from 8/23/10 comment: Logging roads and landings
2 used during the winter period shall be, where necessary, surfaced with
3 rock to a depth and quantity sufficient to maintain a stable operating
4 surface throughout the period of use. Road and landing use may occur
5 on isolated wet spots provided measures, as specified in the THP, are
6 taken to prevent sediment discharge that may reach watercourses or
7 lakes.

8 (h)⁴² Option BOF adopted rule in 9/7/10: Logging roads and landings
9 used for log hauling during winter period shall be, where necessary,
10 surfaced with rock in depth and quantity sufficient to maintain a
11 stable road surface that does not produce sediment in quantities that
12 may cause a visible increase in turbidity of downstream waters in
13 receiving Class I, II, III or IV waters or would violate Water Quality
14 Requirements throughout the period of use. Exceptions may be proposed
15 by the RPF, justified in the THP, and found by the Director to be in
16 conformance with the requirements of this subsection.

18 ⁴¹ Option incorporates Cal Fire recommended rule changes submitted to the
19 board on August 23, 2010. The changes address sediment discharge risks
20 associated with operations on saturated soils/stable operating surfaces. The
21 amendments also ensure better enforcement of operation on saturated soils as
the current definition of saturated soils is easy to understand, can be
applied consistently by Cal Fire inspectors, and avoids subjective
interpretations of "potential" discharges.

22 ⁴² OPTION is BOF language adopted on 9/7/10 in the "Operation on Saturated
23 Soils and Stable Operation Surface, 2010" regulation. Option uses the
24 introductory language proposed by the RRFT and incorporates the 9/7/10
25 language on sediment discharge. Any of the Options proposed for 923.6 (h)
are similar to the DFG proposal in 923.5 (p) (4) and (5). The primary
difference between 923.5(p) (4) and (5) compared to 923.6 (h) is that
923.5(p) has mandatory rocking of road approaches and 923.6 (h) has mandatory
rocking "where necessary to maintain a stable operating for any portion of a
road surface".

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1 (i) In watersheds with listed anadromous salmonids, the following
2 shall apply:

3 (1) Existing logging roads or landings shall not be used within
4 the CMZ of a Class I watercourse except as listed in 14 CCR § 916.9
5 916.9 [936.9, 956.9] subsection (e)(1)(A)-(F) or pursuant to 14 CCR §
6 916.9(v) [936.9(v), 956.9(v)].

7 (2) When feasible, minimize use of existing logging roads and
8 landings located within Inner Zones A and B of flood prone areas.
9 Exceptions include the use of roads and landings to accomplish actions
10 to improve salmonid habitat conditions stated in 14 CCR § 916.9
11 916.9(f)(3)(E)(1.) [936.9(f)(3)(E)(1.), 956.9(f)(3)(E)(1.)]

12 (j) In watersheds with listed anadromous salmonids and in planning
13 watersheds immediately upstream of, and contiguous to, any watershed
14 with listed anadromous salmonids, the following shall apply:

15 (1)⁴³ **RRTF proposal of 3/2/10 revised per BOF Adopted Language**
16 **9/7/10:** Logging roads and landings shall not be used when visibly
17 turbid water from the road or landing surface or an inside ditch
18 associated with the logging road or landing may produce sediment in
19 quantities sufficient to cause a visible increase in turbidity of
20 downstream waters in receiving Class I, II, III or IV waters or
21 violate Water Quality Requirements.

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25 ⁴³ RRTF proposal of 3/2/10 to include language for BOF adopted rules for operations on saturated soils in Sept. 2010.

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1 (1) Staff OPTION: Logging roads and landings shall not be used
2 when operations may result in significant discharge of sediment to
3 watercourses or lakes.

4 (1) CGS Option: Logging roads and landings shall not be used when
5 visibly turbid water from the road or landing surface or an inside
6 ditch associated with the logging road or landing may produce sediment
7 in quantities sufficient to cause a visible increase in turbidity of
8 downstream waters in receiving Class I, II, III or IV waters or
9 violate Water Quality Requirements or result in significant NMFS
10 OPTION: individual or cumulative adverse impacts to the beneficial uses
11 of water.

12 (1) OPTION CAL FIRE from 8/23/10 comment⁴⁴: Logging roads and
13 landings shall not be used when visibly turbid water from the road or
14 landing or drainage facility associated with the logging road or
15 landing may reach watercourses or lakes.

16 (2) RRTF proposal 3/2/10: Log hauling on logging roads and
17 landings shall be limited to those which are hydrologically
18 disconnected from watercourses to the extent feasible, and exhibit a
19 stable operating surface in conformance with (1) above.

20 (2) Staff Option: Log hauling on logging roads and landings shall
21 be limited to those which are hydrologically disconnected from
22 watercourses to the extent feasible, and exhibit a stable operating
23 _____

24 ⁴⁴ Option incorporates Cal Fire recommended rule changes submitted to the
25 board on August 23, 2010. The changes provide a consistent brief usage of
requirements regarding sediment discharge.

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1 surface. Log hauling may occur on isolated wet spots provided
2 measures, as specified in the THP, are taken to prevent significant
3 discharge of sediment to watercourses or lakes.

4 (2)⁴⁵ OPTION CAL FIRE from 8/23/10 comment: Log hauling on
5 logging roads and landings shall be limited to those which are
6 hydrologically disconnected from watercourses to the extent feasible,
7 and exhibit a stable operating surface. Log hauling may occur on
8 isolated wet spots provided measures, as specified in the THP, are
9 taken to prevent sediment discharge that may reach watercourses or
10 lakes.

11 (3)⁴⁶ Concurrent with use for log hauling, approaches to logging
12 road watercourse crossings shall be treated for erosion control as
13 needed to minimize soil erosion and sediment transport and to prevent
14 the discharge of sediment into watercourses and lakes in quantities
15 CGS OPTION:~~deleterious~~ that violate Water Quality Requirements or
16 result in significant NMFS OPTION: individual or cumulative adverse
17 impacts to the beneficial uses of water.

18 (3) Staff OPTION: Concurrent with use for log hauling, approaches
19 to logging road watercourse crossings shall be treated for erosion
20 _____

21 ⁴⁵ Option incorporates Cal Fire recommended rule changes submitted to the
22 board on August 23, 2010. The changes address sediment discharge risks
23 associated with operations on saturated soils. The amendments also ensure
24 better enforcement of operation on saturated soils as the current definition
of saturated soils is easy to understand, can be applied consistently by Cal
Fire inspectors, and avoids subjective interpretations of "potential"
discharges.

25 ⁴⁶ The FPC decided on 9/7/10 to retain this section and 923.5 (ii) in the
FPRs. Although these two sections have redundant requirements, it is
necessary to ensure that road approach surface treatments for erosion
prevention are the focus of review for any ASP watershed.

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1 control as needed to minimize soil erosion and sediment transport and
2 to prevent significant discharge of sediment to watercourses or lakes.

3 (3)⁴⁷ OPTION CAL FIRE from 8/23/10 comment: Concurrent with use
4 for log hauling, approaches to logging road watercourse crossings
5 shall be treated for erosion control as needed to minimize soil
6 erosion and sediment transport and to prevent the discharge of
7 sediment that may reach watercourses or lakes.

8 (4) Concurrent with use for log hauling, all traveled surfaces
9 of logging roads in a WLPZ, and ELZ or EEZ designated for watercourse
10 or lake protection, **DFG Option:** or other watercourses within 100 feet
11 of appurtenant roads⁴⁸ shall be treated for erosion control as needed
12 to minimize soil erosion and sediment transport and to prevent the
13 discharge of sediment into watercourses and lakes in quantities **CGS**
14 **OPTION deleterious** that violate Water Quality Requirements or result
15 in significant **NMFS OPTION: individual or cumulative** adverse impacts to
16 the beneficial uses of water.

17 (4)⁴⁹ Staff OPTION: Concurrent with use for log hauling, all
18 traveled surfaces of logging roads in a WLPZ, and ELZ or EEZ
19 designated for watercourse or lake protection, shall be treated for
20 erosion control as needed to minimize soil erosion and sediment

21 _____
22 ⁴⁷ Option A incorporates Cal Fire recommended rule changes submitted to the
23 board on August 23, 2010. The changes provide a consistent brief usage of
24 requirements regarding sediment discharge.

24 ⁴⁸ DFG option to address road used for hauling near watercourses that are
appurtenant roads and currently not subject to this provision.

25 ⁴⁹ Option incorporates Cal Fire recommended rule changes submitted to the
board on August 23, 2010. The changes provide a consistent brief usage of
requirements regarding sediment discharge.

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1 transport and to prevent significant discharge of sediment to
2 watercourses or lakes.

3 (4)⁵⁰ OPTION CAL FIRE from 8/23/10 comment: Concurrent with use
4 for log hauling, all traveled surfaces of logging roads in a WLPZ, and
5 ELZ or EEZ designated for watercourse or lake protection, shall be
6 treated for erosion control as needed to minimize soil erosion and
7 sediment transport and to prevent discharge of sediment that may reach
8 watercourses or lakes.

9 (5) No timber operations shall take place during the extended
10 wet weather period unless the approved plan incorporates a complete
11 winter period operating plan pursuant to 14 CCR § 914.7(a) [934.7(a),
12 954.7(a)] that specifically addresses, where applicable, proposed
13 logging road or landing use.

14
15 **923.7, 943.7, 963.7 Maintenance and Monitoring for Logging Roads and**
16 **Landings**

17 The following maintenance and monitoring standards shall apply to
18 logging roads and landings:

19 (a) Logging road and landing surfaces shall be
20 maintained during timber operations and throughout the prescribed
21 maintenance period to minimize soil erosion and sediment transport and
22 to prevent the discharge of sediment into watercourses and lakes in
23 quantities CGS OPTION deleterious that violate Water Quality

24 _____
25 ⁵⁰ Option incorporates Cal Fire recommended rule changes submitted to the board on August 23, 2010. The changes provide a consistent brief usage of requirements regarding sediment discharge.

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1 Requirements or result in significant NMFS OPTION: individual or
2 cumulative adverse impacts to the beneficial uses of water.

3 (b) Logging roads that are used in connection with stocking
4 activities shall be maintained throughout such use, even if this
5 extends beyond the prescribed maintenance period.

6 (c) Maintenance treatments to the running surfaces of logging roads
7 and landing surfaces shall be described in the plan and may include,
8 but not be limited to, rocking, watering, paving, chemically treating,
9 or installing commercial erosion control devices to manufacturer's
10 specifications.

11 (d) Drainage facilities and drainage structures, including associated
12 necessary protective structures, shall be maintained to allow free
13 flow of water and minimize soil erosion or they shall be repaired,
14 replaced, or installed when maintenance is needed to protect the
15 quality and beneficial uses of water.

16 (e) Waterbreaks shall be maintained as specified in 14 CCR § 914.6
17 [934.6, 954.6]subsection (h).

18 (f) Soil stabilization treatments on logging road or landing cuts,
19 fills, and sidecast shall be maintained as needed to minimize soil
20 erosion and sediment transport and to prevent sediment discharge into
21 watercourses and lakes in quantities CGS Option that violate Water
22 Quality Requirements or result in significant NMFS OPTION: individual
23 or cumulative adverse impacts to the beneficial uses of water
24 deleterious to the beneficial uses of water.

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1 (g) Actions shall be taken as needed to reduce the potential for
2 failures of cuts, fills, or sidecast to discharge sediment into
3 watercourses and lakes in quantities ~~CGS Option that violate Water~~
4 Quality Requirements or result in significant **NMFS OPTION: individual**
5 or **cumulative** adverse impacts to the beneficial uses of water
6 ~~deleterious to the beneficial uses of water.~~

7 (h) Heavy equipment shall not be used in a WLPZ for maintenance
8 during wet weather, except in emergencies to protect the road, to
9 reduce erosion, to protect water quality, or in response to public
10 safety needs.

11 (i) Where evidence of substantial soil erosion and discharge of
12 sediment into watercourses or lakes in quantities ~~CGS OPTION~~
13 ~~deleterious~~ that violate Water Quality Requirements or result in
14 significant **NMFS OPTION: individual or cumulative** adverse impacts to
15 the beneficial uses of water is present along a logging road or
16 landing used for timber operations, additional drainage facilities and
17 structures shall be installed as needed to minimize soil erosion and
18 sediment transport and to prevent the discharge of sediment into
19 watercourses and lakes in quantities ~~CGS OPTION deleterious that~~
20 violate Water Quality Requirements or result in significant **NMFS**
21 **OPTION: individual or cumulative** adverse impacts to the beneficial uses
22 of water.

23 (j) The prescribed maintenance period for erosion controls on
24 permanent and seasonal logging roads and associated landings and
25 drainage structures, which are not abandoned or deactivated in
accordance with 14 CCR §§ 923.8 [943.8, 963.8] and 923.17 [943.17,

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1 963.17], shall be at least one year. The Director may prescribe a
2 maintenance period extending up to three years in accordance with 14
3 CCR § 1050.

4 (k) Logging roads, landings, and associated drainage structures used
5 for timber operations shall be monitored as needed to comply with 14
6 CCR § 1050.

7 (1) In watersheds with listed anadromous salmonids, water drafting
8 for timber operations shall:

9 (1) Comply with Fish and Game Code Section 1600, et seq. Timber
10 operations conducted under a Fish and Game Code Section 1600 master or
11 long-term agreement that includes water drafting may provide proof of
12 such coverage for compliance with this paragraph.

13 (2) Describe the water drafting site conditions and proposed
14 water drafting activity in the plan, including:

15 (A) A general description of the conditions and proposed
16 water drafting;

17 (B) The watercourse classification;

18 (C) The drafting parameters including the months the site
19 is proposed for use; estimated total volume needed per day; estimated
20 maximum instantaneous drafting rate and filling time; and disclosure
21 of other water drafting activities in the same watershed;

22 (D) The estimated drainage area (acres) above the point of
23 diversion;

24 (E) The estimated unimpeded streamflow, pumping rate, and
25 drafting duration,

(F) a discussion of the effects on aquatic habitat

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1 downstream from the drafting site(s) of single pumping operations, or
2 multiple pumping operations at the same location, and at other
3 locations in the same watershed;

4 (G) A discussion of proposed alternatives and measures to
5 prevent adverse effects to fish and wildlife resources, such as
6 reducing hose diameter; using gravity-fed tanks instead of truck
7 pumping; reducing the instantaneous or daily intake at one location;
8 describing allowances for recharge time; using other dust palliatives;
9 and drafting water at alternative sites;

10 (H) The methods that will be used to measure source
11 streamflow prior to the water drafting operation and the conditions
12 that will trigger streamflow to be measured during the operation.

13 (3) All water drafting for timber operations are subject to each
14 requirement below unless the Department of Fish and Game modifies the
15 requirement in the Lake or Streambed Alteration agreement that
16 authorized the drafting operation, or unless otherwise specified
17 below:

18 (A) All intakes shall be screened to prevent impingement of
19 juvenile fish against the screen. The following requirements apply to
20 screens and water drafting on Class I waters:

21 (i) Openings in perforated plate or woven wire mesh
22 screens shall not exceed 3/32 inches (2.38 millimeters). Slot
23 openings in wedge wire screens shall not exceed 1/16 inches (1.75
24 millimeters).

25 (ii) The screen surface shall have at least 2.5
square feet of openings submerged in water.

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1 (iii) The drafting operator shall regularly inspect,
2 clean, and maintain screens to ensure proper operation whenever water
3 is drafted.

4 (iv) The approach velocity (water moving through the
5 screen) shall not exceed 0.33 feet/second.

6 (v) The diversion rate shall not exceed 350 gallons
7 per minute.

8 (B) Approaches and associated drainage features to drafting
9 locations within a WLPZ or channel zone shall be surfaced with rock or
10 other suitable material to minimize generation of sediment.

11 (C) Barriers to sediment transport, such as straw waddles,
12 logs, straw bales or sediment fences, shall be installed outside the
13 normal high water mark to prevent sediment delivery to the watercourse
14 and limit truck encroachment.

15 (D) Water drafting trucks parked on streambeds or
16 floodplains shall use drip pans or other devices such as adsorbent or
17 absorbent blankets, sheet barriers or other materials as needed to
18 prevent soil and water contamination from motor oil or hydraulic fluid
19 leaks.

20 (E) Bypass flows for Class I watercourses shall be provided
21 in volume sufficient to avoid dewatering the watercourse and maintain
22 aquatic life downstream, and shall conform to the following standard:

23 (i) Bypass flows in the source stream during
24 drafting shall be at least 2 cubic feet per second.

25 (ii) Diversion rate shall not exceed 10 percent of
the surface flow.

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1 (iii) Pool volume reduction shall not exceed 10
2 percent.

3 (F) The drafting operator shall keep a log that records for
4 each time water is drafted, the date, total pumping time, pump rate,
5 starting time, ending time, and volume diverted. Logs shall be filed
6 with the Department of Forestry and Fire Protection at the end of
7 seasonal operations and maintained with the plan record. This
8 requirement may be modified in the approved plan that covers the water
9 drafting, but only with concurrence from the Department of Fish and
10 Game.

11 (G) Before commencing any water drafting operation, the RPF
12 and the drafting operator shall conduct a pre-operations field review
13 to discuss the water drafting measures in the plan and/or Lake or
14 Streambed Alteration Agreement.

15 (m) In watersheds with listed anadromous salmonids and in planning
16 watersheds immediately upstream of, and contiguous to, any watershed
17 with listed anadromous salmonids, the following shall apply:

18 (1) Grading logging roads or landings to obtain a drier running
19 surface more than one time before reincorporation of any resulting
20 berms back into the road surface is prohibited.

21 (2) The erosion control maintenance period on permanent and
22 seasonal logging roads and associated landings that are not abandoned
23 or deactivated in accordance with 14 CCR § 923.8 [943.8, 963.8] shall
24 be three years.

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1 Adopt § 923.8[943.8, 963.8]. Abandonment and Deactivation of Logging
2 Roads and Landings.

3 All logging roads and landings that are proposed to be removed from
4 the permanent road network, including historic roads and landings,
5 shall be abandoned. All temporary logging roads and landings that are
6 to remain a part of the permanent road network shall be deactivated
7 prior to the winter period or upon completion of timber operations,
8 whichever comes first. Other logging roads and landings proposed to
9 be deactivated shall comply with the standards specified in this
10 section. Where abandonment or deactivation is required or proposed,
11 specific measures used to apply the following general requirements
12 shall be described in the plan:

13 (a) All abandoned and deactivated logging roads shall be left in a
14 condition that provides for long-term functioning of erosion controls.

15 (b) Soil exposed by abandonment or deactivation operations on cuts,
16 fills, and sidecast shall be stabilized as needed during and upon
17 completion of abandonment or deactivation operations to minimize soil
18 erosion and sediment transport and to prevent the discharge of
19 sediment into watercourses and lakes in quantities CGS Option that
20 violate Water Quality Requirements or result in significant NMFS
21 OPTION: individual or cumulative adverse impacts to the beneficial
22 uses of water deleterious to the beneficial uses of water.

23 (c) Logging road and landing surfaces shall be graded or shaped where
24 needed to disperse runoff.

25 (d) Fills or sidecast shall be pulled or shaped where site conditions
indicate that there is a reasonable potential for perched materials to

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1 enter a watercourse or lake in quantities ~~CGS Option that violate~~
2 ~~Water Quality Requirements or result in significant~~ NMFS OPTION:
3 ~~individual or cumulative~~ adverse impacts to the beneficial uses of
4 ~~water deleterious to the beneficial uses of water.~~

5 (e) Logging road watercourse crossings, other drainage structures,
6 and associated fills shall be removed and stabilized in accordance
7 with 14 CCR § 923.17 [943.17, 963.17] subsections (a)-(c). Where it is
8 not feasible to remove drainage structures and associated fills, the
9 plan shall identify how the potential for soil erosion and sediment
10 transport will be minimized and how the discharge of sediment into
11 watercourses and lakes in quantities ~~CGS Option: that violate Water~~
12 ~~Quality Requirements or result in significant~~ NMFS OPTION: individual
13 ~~or cumulative~~ adverse impacts to the beneficial uses of water
14 ~~deleterious to the beneficial uses of water~~ will be prevented.

15 (f) Logging roads to be abandoned or deactivated shall be blocked
16 prior to the winter period so that standard production four wheel-
17 drive highway vehicles cannot pass the point of closure at the time of
18 abandonment or deactivation. If the logging road is to be abandoned,
19 then the blockage design shall be described in the plan.

20
21 **Adopt §923.9 [943.9, 963.9]. Licensed Timber Operator Responsibility**
22 **for Logging Roads and Landings.**

23 The licensed timber operator who is responsible for the
24 implementation or execution of the plan shall be responsible for the
25 construction and maintenance of logging roads and landings, unless

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1 another licensed timber operator is employed for that purpose and
2 amended into the plan as the responsible party.

3
4 **Adopt § 923.10 [943.10, 963.10]. Planning for Logging Road Watercourse**
5 **Crossings.**

6 The following planning standards shall apply to logging road
7 watercourse crossings:

8 (a) Logging road watercourse crossings shall be planned and located
9 within the context of a systematic logging road layout pattern.

10 (b) Logging road watercourse crossings shall be planned in a manner
11 that is consistent with their proposed use.

12 (c) The number of logging road watercourse crossings shall be kept to
13 a feasible minimum.

14 (d) Existing logging road watercourse crossing locations shall be
15 utilized where feasible and appropriate.

16 (e) Where logging road watercourse crossings are proposed to be
17 constructed or reconstructed in areas where public safety may be
18 affected, the potential public safety impacts shall be disclosed in
19 the plan.

20 (f)⁵¹As part of the field examination of **classified** watercourses and
21 lakes, the RPF or supervised designee shall evaluate areas at and near
22 existing and constructed or reconstructed logging road watercourse
23 crossings for sensitive conditions, including, but not limited to,
24 past diversion, overtopping, plugging, significant inlet or outlet

25
⁵¹ Staff Note: Conform this section to be consistent with FPC decision on language used in **923.1 (d)**

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1 erosion, soil piping, fill slope erosion and significant mechanical
2 damage or wear.

3 (1) The RPF shall consider these conditions, and those measures
4 needed to maintain, and restore to the extent feasible, the functions
5 set forth in 14 CCR § 916.4(b) [936.4(b), 956.4(b)], when planning
6 logging road watercourse crossings.

7 (2) The plan shall identify such conditions, including where
8 they may interact with proposed timber operations, that individually
9 or cumulatively, significantly and adversely affect the beneficial
10 uses of water.

11 (3) The RPF shall describe in the plan feasible protection
12 measures for identified sensitive conditions that consider the
13 watercourse classification and the location and planned use of logging
14 road watercourse crossings.

15 (4) Where feasible protection measures are proposed, the RPF
16 shall specify an implementation schedule in the plan.

17 (g) The RPF shall disclose in the plan how diversion of stream
18 overflow at logging road watercourse crossings will be prevented.

19 (h) All new permanent constructed or reconstructed logging road
20 watercourse crossing culverts installed on Class I watercourses, where
21 fish are always or seasonally present or where fish habitat is
22 restorable, shall be planned to allow upstream and downstream passage
23 of fish or listed aquatic species during any life stage and for the
24 natural movement of bedload to form a continuous bed through the
25 culvert.

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1 923.11, 943.11, 953.11 Logging Road Watercourse Crossing Design and
2 Implementation

3 The following design and implementation standards shall apply to
4 logging road watercourse crossings:

5 (a) All constructed and reconstructed logging road watercourse
6 crossings shall be designed in accordance with the planned use of the
7 associated logging road.

8 (b) All logging road watercourse crossings shall be designed to
9 avoid or mitigate potential significant adverse impacts to public
10 safety.

11 (c) All constructed and reconstructed permanent logging road
12 watercourse crossing structures shall be designed to accommodate the
13 estimated 100-year flood flow, including debris and sediment loads.

14 (d) All new and replacement culverts used for logging road
15 watercourse crossings shall be designed to be installed at or slightly
16 below the natural watercourse grade, in alignment with the watercourse
17 channel and of the appropriate length.

18 (e) Where new culverts are proposed for permanent installation at a
19 logging road watercourse crossing, the minimum diameter of the culvert
20 and the method(s) used to determine the culvert diameter shall be
21 specified in the plan.

22 (f) All necessary protective structures associated
23 with logging road watercourse crossings shall be adequately sized to
24 transmit runoff, minimize erosion of crossing fills, and prevent the
25 discharge of sediment into watercourses and lakes in quantities **CGS**

OPTION deleterious that violate Water Quality Requirements or result

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1 in significant **NMFS OPTION: individual or cumulative** adverse impacts to
2 the beneficial uses of water.

3 (g) Methods to mitigate or prevent diversion of stream overflow at
4 logging road watercourse crossings shall be stated in the plan.

5 (h) Rock used to stabilize the outlet of fords shall be adequately
6 sized to resist mobilization, with the range of required rock
7 dimensions described in the plan.

8 (i) Drainage structures on watercourses that support fish shall allow
9 for unrestricted passage of all life stages of fish that may be
10 present, and shall be fully described in the plan in sufficient
11 clarity and detail to allow evaluation by the review team and the
12 public, provide direction to the LTO for implementation, and provide
13 enforceable standards for the inspector.

14 (j) All new permanent constructed and reconstructed logging road
15 watercourse crossing culverts installed within Class I watercourses,
16 which meet the criteria for Class I waters where fish are always or
17 seasonally present or where fish habitat is restorable, shall include
18 the analysis and specifications that document conformance with 14 CCR
19 § 923.10 [943.10, 963.10]subsection (h).

20 (k) Where logging road networks are remote or are located where the
21 landscape is unstable, where crossing fills over culverts are large,
22 or where logging road watercourse crossing drainage structures and
23 erosion control features historically have a high failure rate,
24 drainage structures and erosion control features shall be oversized,
25 designed for low maintenance, reinforced, or removed before the
completion of the timber operation. **RRTF Option 1: The method of**

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1 analysis and the design for crossing protection shall be included in
2 the plan. [And do not add 923.11(m) below]

3 (1) In watersheds with listed anadromous salmonids, for Class I
4 watercourses, where fish are always or seasonally present or where
5 fish habitat is restorable, any plan involving timber operations
6 within the WLPZ shall contain the following information:

7 (1) A description of all existing permanent logging road
8 watercourse crossings.

9 (2) Clear and enforceable specifications describing how these
10 crossings are to be modified, used, and treated to minimize risks,
11 giving special attention to allowing fish to pass both upstream and
12 downstream during all life stages and in conformance with the
13 standards of subsection (j) above and 14 CCR § 923.10[943.10,
14 963.10]subsection (h).

15 (3) Clear and enforceable specifications for construction and
16 operation of any new crossing(s) of a Class I watercourse to prevent
17 direct harm, habitat degradation, water velocity increase, hindrance
18 of fish passage, or other potential impairment of beneficial uses of
19 water.

20 (m) (Option 2 In watersheds with listed anadromous salmonids, in
21 addition to the requirements of 14 CCR § 923.11 [943.11,
22 963.11]subsection (k), the method of analysis and the design for
23 crossing protection shall be included in the plan.)

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1 Adopt § 923.12[943.12, 963.12]. Logging Road Watercourse Crossing

2 Mapping and Identification.

3 The following mapping and identification standards shall apply to
4 logging road watercourse crossings:

5 (a) For logging road watercourse crossing-related mapping
6 requirements refer to 14 CCR §§ 1034(x)(6)(A)-(C), 1090.5(w)(7),
7 1090.7(n)(7), and 1092.09(1)(7)(A)-(C).

8 (b) For logging road watercourse crossing-related disclosure and
9 description requirements refer to 14 CCR §§ 1034(ii)(1)-(2) and (4),
10 1034(kk)(4)(A), 1034(ll) and 1034(mm).

11 (c) The location of all logging road watercourse crossings to be
12 constructed or reconstructed shall be flagged or otherwise identified
13 on the ground **RRTF Option 1:** before submission of a plan or
14 substantial deviation **RRTF Option 2:** prior to the pre-harvest
15 inspection, if necessary, or prior to logging road watercourse
16 crossing construction or reconstruction). Exceptions may be explained
17 and justified in the plan and agreed to by the Director if flagging is
18 unnecessary as a substantial aid to examining possible significant
19 adverse effects of the crossing location on the factors listed under
20 14 CCR § 923 [943), 963]subsection (b).

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1 Adopt § 923.13 [943.13, 963.13]. Logging Road Watercourse Crossing
2 Construction and Reconstruction.

3 The following construction and reconstruction standards shall apply to
4 logging road watercourse crossings:

5 (a) Where applicable, logging road watercourse crossing construction
6 and reconstruction shall comply with the ~~design of conditions in~~
7 required DFG 1602 agreements.

8 design of required DF&G 1600 agreements.

9 (b) All constructed and reconstructed permanent logging road
10 watercourse crossings shall accommodate the 100-year flood flow,
11 including debris and sediment loads.

12 (c) All new and replacement culverts used for logging road
13 watercourse crossings shall be installed at or slightly below the
14 natural watercourse grade and in alignment with the watercourse
15 channel. For Class I watercourses where fish are always or seasonally
16 present or where fish habitat is restorable, new and replacement
17 culverts shall be installed below grade and in alignment with the
18 watercourse channel to allow upstream and downstream passage of fish
19 or listed aquatic species during any life stage and natural movement
20 of bedload to form a continuous bed through the culvert and shall be
21 in conformance the design specified in 14 CCR § 923.11 [943.11,963.11]
22 subsection (j) and with ~~conditions in~~ required DFG 1602 agreements
23 specified in subsection (a) above.

24 (d) Fills for constructed and reconstructed logging road watercourse
25 crossings shall be thoroughly compacted in approximately one-foot

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1 lifts during installation. The face of crossing fills shall be no
2 greater than 65 percent (1.5:1, horizontal to vertical).

3 (e) Logging road watercourse crossings shall not discharge water onto
4 erodible fill or other erodible material without the installation of
5 energy dissipators and other necessary protective structures.

6 (f) Where water is flowing at the time of logging road watercourse
7 crossing construction or reconstruction, necessary protective
8 structures shall be concurrently installed.

9 (g) Where a significant volume of sediment is stored upstream from a
10 logging road watercourse crossing that is proposed to be
11 reconstructed, the stored sediment shall be removed or stabilized, to
12 the extent feasible, as described in the plan and in conformance with
13 conditions in required DFG 1602 agreements.

14 (h) Critical dips shall be incorporated into the construction or
15 reconstruction of logging road watercourse crossings utilizing
16 culverts, except where diversion of overflow is prevented by other
17 methods stated in the plan.

18 (i) Logging road watercourse crossings with sensitive conditions
19 identified under 14 CCR § 923.10[943.10, 963.10]subsection (f) shall
20 be upgraded to address these conditions, replaced in accordance with
21 14 CCR § 923.11 [943.11, 963.11] and this section, or removed in
22 accordance with 14 CCR § 923.17 [943.17, 963.17].

23 (j) Logging road watercourse crossings shall not be constructed or
24 reconstructed under saturated soil conditions or when such activities
25 could result in the discharge of sediment into watercourses or lakes
in quantities ~~CGS OPTION deleterious that violate Water Quality~~

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1 Requirements or result in significant NMFS OPTION: individual or
2 cumulative adverse impacts to the beneficial uses of water.

3 (k) Where conditions are encountered during logging road watercourse
4 crossing construction or reconstruction that differ from what was
5 anticipated during the preparation and review of the plan and that
6 will result in a significant adverse impact on the environment or to
7 public safety, the LTO shall notify the RPF or plan submitter of these
8 unanticipated conditions in accordance with 14 CCR § 1035.3. If
9 necessary, the responsible RPF or plan submitter shall submit to the
10 Director a proposed deviation to the plan describing the unanticipated
11 conditions and proposing appropriate actions.

12 (l) Logging road watercourse crossings shall be installed no later
13 than October 15, except where logging road construction or
14 reconstruction takes place from October 15 to November 15 or from
15 April 1 to May 1 where logging road watercourse crossings shall be
16 installed concurrent with the activity. Logging road watercourse
17 crossings shall not be installed during the winter period, except as
18 specified in an approved winter operating plan per 14 CCR § 914.7
19 [934.7, 954.7]subsection (a).

20 (m) In watersheds with listed anadromous salmonids, excavated
21 material and cut banks resulting from construction and reconstruction
22 shall be sloped back from the channel to prevent slumping and to
23 minimize soil erosion and where needed, stabilized per 14 CCR § 923.14
24 [943.14, 963.14]subsection (b).

25 (n) In watersheds with listed anadromous salmonids and in planning
watersheds immediately upstream of, and contiguous to, any watershed

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1 with listed anadromous salmonids, during the extended wet weather
2 period no timber operations shall take place unless the approved plan
3 incorporates a complete winter period operating plan pursuant to 14 CCR
4 § 914.7 [934.7, 954.7], subsection (a). that specifically addresses,
5 where applicable, proposed logging road watercourse construction or
6 reconstruction. Where logging road watercourse crossing construction
7 or reconstruction is proposed an implementation schedule shall be
8 specified.

9
10 **Adopt § 923.14 [943.14, 963.14]. Logging Road Watercourse Crossing**
11 **Erosion Control.**

12 (a) The following drainage standards shall apply to logging road
13 watercourse crossings:

14 (1) Adequate surface drainage at logging road watercourse
15 crossings shall be provided through the use of surface geometry
16 configurations in combination with the installation of drainage
17 facilities, ditch drains, or other necessary protective structures.

18 (2) Drainage facilities and ditch drains shall be installed
19 adjacent to logging road watercourse crossings, as needed, to minimize
20 soil erosion and sediment transport and to prevent the discharge of
21 sediment into watercourses and lakes in quantities **CGS Option that**
22 **violate Water Quality Requirements or result in significant NMFS**
23 **OPTION: individual or cumulative** adverse impacts to the beneficial
24 uses of water ~~deleterious to the beneficial uses of water~~ during and
25 upon completion of timber operations. See 14 CCR § 923.5 [943.5,
963.5], subsections (d)-(j)

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1 (3) Drainage facilities or ditch drains installed adjacent to
2 logging road watercourse crossings shall be located to avoid
3 discharging concentrated runoff onto fills, erodible soils, unstable
4 areas, and connected headwall swales.

5 (b) The following stabilization standards shall apply to logging road
6 watercourse crossings:

7 (1) Bare soil on fills or sidecast associated with logging road
8 watercourse crossings that are created or exposed by timber operations
9 shall be stabilized to the extent necessary to minimize soil erosion
10 and sediment transport and to prevent the discharge of sediment into
11 watercourses and lakes in quantities ~~CGS OPTION deleterious that~~
12 ~~violate Water Quality Requirements or result in significant NMFS~~
13 ~~OPTION: individual or cumulative~~ ~~adverse impacts~~ to the beneficial uses
14 of water.

15 Erosion control measures for the traveled surface of roads and
16 landing surfaces are specified in 14 CCR §§ 923.5 [943.5, 963.5] and
17 923.7 [943.7, 963.7]. Sites to be stabilized include, but are not
18 limited to, sidecast or fill greater than 20 feet in slope distance
19 from the outside edge of the road surface at the logging road
20 watercourse crossing.

21 (2) Soil stabilization measures shall be described in the plan
22 and may include, but are not limited to, removal, armoring with rip-
23 rap, replanting, mulching, seeding, installing commercial erosion
24 control devices to manufacturer's specifications, or chemical
25 stabilizers.

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1 (3) Soil stabilization treatments shall be in place upon
2 completion of operations for the year of use or prior to October 15,
3 whichever comes first. An exception is that bare areas created after
4 October 15 shall be treated within 10 days or as agreed to by the
5 Director.

6 (4) In watersheds with listed anadromous salmonids and in
7 planning watersheds immediately upstream of, and contiguous to, any
8 watershed with listed anadromous salmonids, within the WLPZ and within
9 any ELZ or EEZ designated for watercourse or lake protection,
10 treatments to stabilize soils, minimize soil erosion, and prevent the
11 discharge of sediment into watercourses and lakes in quantities **CGS**
12 **Option** that violate Water Quality Requirements or result in
13 significant **NMFS OPTION:** individual or cumulative adverse impacts to
14 deleterious to aquatic species or the quality and beneficial uses of
15 water, or that threaten to violate applicable water quality
16 requirements, shall be described in the plan as follows:

17 (A) In addition to the requirements of subsections (b)(1)-
18 (3), soil stabilization is required for the following:

19 (i) Areas exceeding 100 continuous square feet where
20 timber operations have exposed bare soil.

21 (ii) Disturbed logging road watercourse crossing cut
22 banks and fills, and

23 (iii) Any other area of disturbed soil that threatens
24 to discharge sediment into water in quantities **CGS Option** that violate
25 Water Quality Requirements or result in significant **NMFS OPTION:**

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1 individual or cumulative adverse impacts to the beneficial uses of
2 water deleterious to the quality and beneficial uses of water.

3 (B) Where straw mulch is used, the minimum straw coverage
4 shall be 90 percent, and any treated area that has been reused or has
5 less than 90 percent surface cover shall be treated again by the end
6 of timber operations.

7 (C) Where slash mulch is packed into the ground surface
8 through the use of a tractor or equivalent piece of heavy equipment
9 the minimum slash coverage shall be 75 percent.

10 (D) For areas disturbed from May 1 to October 15,
11 treatment shall be completed prior to the start of any rain that
12 causes overland flow across or along the disturbed surface that could
13 deliver sediment into a watercourse or lake in quantities **CGS Option**
14 that violate Water Quality Requirements or result in significant **NMFS**
15 **OPTION: individual or cumulative** adverse impacts to the beneficial
16 uses of water deleterious to the beneficial uses of water.

17 (E) For areas disturbed from October 15 to May 1,
18 treatment shall be completed prior to any day for which a chance of
19 rain of 30 percent or greater is forecast by the National Weather
20 Service or within 10 days of disturbance, whichever is earlier.

21
22
23 **Adopt § 923.15 [943.15, 963.15]. Logging Road Watercourse Crossing**
24 **Use.**

25 Logging road watercourse crossings shall be used in a manner that is
consistent with the design, construction, and maintenance of the

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1 logging road along which they have been constructed (Refer to 14 CCR
2 §§ 923.2 [943.2, 963.2], 923.4 [943.4, 963.4], 923.6 [943.6, 963.6],
3 and 923.7 [943.7, 963.7]).

4
5 **Adopt § 923.16 [943.16, 963.16]. Logging Road Watercourse Crossing**
6 **Maintenance and Monitoring.**

7 The following maintenance and monitoring standards shall apply to
8 logging road watercourse crossings:

9 (a) Logging road watercourse crossings shall be maintained as
10 designed, constructed, and reconstructed during timber operations and
11 throughout the prescribed maintenance period.

12 (b) Logging road watercourse crossings that are used in connection
13 with stocking activities shall be maintained throughout such use, even
14 if this extends beyond the prescribed maintenance period.

15 (c) Soil stabilization treatments on logging road watercourse
16 crossing fills shall be maintained to minimize soil erosion and
17 sediment transport and to prevent the discharge of sediment into
18 watercourses and lakes in quantities ~~CGS OPTION deleterious that~~
19 ~~violate Water Quality Requirements or result in significant NMFS~~
20 ~~OPTION: individual or cumulative~~ adverse impacts to the beneficial uses
21 of water.

22 (d)⁵² The plan shall identify measures to be used to reduce
23 sediment delivery from logging road watercourse crossings where
24 evidence of substantial soil erosion and discharge of sediment into
25 _____

⁵² This section is redundant to requirements in 923.1 (d)

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1 watercourses and lakes in quantities ~~CGS OPTION deleterious that~~
2 ~~violate Water Quality Requirements or result in significant NMFS~~
3 ~~OPTION: individual or cumulative~~ adverse impacts to the beneficial uses
4 of water is present at a logging road watercourse crossing used for
5 timber operations. Where evidence of substantial soil erosion and
6 discharge of sediment into watercourses and lakes in quantities ~~CGS~~
7 ~~OPTION deleterious that violate Water Quality Requirements or result~~
8 ~~in significant NMFS OPTION: individual or cumulative~~ adverse impacts to
9 the beneficial uses of water is present at a logging road watercourse
10 crossing used for timber operations, additional measures shall be
11 stated in the plan and installed, as needed, to minimize soil erosion
12 and sediment transport and to prevent the discharge of sediment into
13 watercourses and lakes in quantities ~~CGS Option that violate Water~~
14 ~~Quality Requirements or result in significant NMFS OPTION: individual~~
15 ~~or cumulative~~ adverse impacts to the beneficial uses of water
16 ~~deleterious to the beneficial uses of water.~~

17 (e) Logging road watercourse crossings used for timber operations
18 shall be monitored, as needed, to comply with 14 CCR § 1050.

19 (f) Drainage structures and associated necessary protective
20 structures shall be maintained, repaired, and replaced as needed to
21 minimize crossing blockage and to provide for adequate capacity.

22 (g) In watersheds with listed anadromous salmonids and in planning
23 watersheds immediately upstream of, and contiguous to, any watershed
24 with listed anadromous salmonids, the erosion control maintenance
25 period on logging road watercourse crossings that are not abandoned or

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1 deactivated in accordance with 14 CCR § 923.8 [943.8, 963.8] shall be
2 three years.

3
4 **Adopt § 923.17[943.17, 963.17] Logging Road Watercourse Crossing**
5 **Removal.**

6 All logging road watercourse crossings that are proposed by the plan
7 submitter to be removed, including temporary crossings and those along
8 abandoned or deactivated logging roads, shall be removed as described
9 in the plan and shall apply the following standards:

10 (a) Fills shall be excavated to form a channel that is as close as
11 feasible to the natural watercourse grade and orientation and that is
12 wider than the average natural channel, as observed upstream and
13 downstream of the logging road watercourse crossing to be removed.

14 (b) The excavated material and any resulting cut bank shall be no
15 greater than 65 percent (1.5:1, horizontal to vertical) from the
16 outside edge of the constructed channel to prevent slumping, to
17 minimize soil erosion and sediment transport, and to prevent the
18 discharge of sediment into watercourses and lakes in quantities CGS
19 Option that violate Water Quality Requirements or result in
20 significant NMFS OPTION: individual or cumulative adverse impacts to
21 the beneficial uses of water ~~deleterious to the beneficial uses of~~
22 water.

23 (c) Exposed soil associated with logging road
24 watercourse crossing fill removal, including cut banks and excavated
25 material, shall be stabilized during and upon completion of removal
operations, as needed, or as otherwise specified in the rules. Soil

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1 stabilization measures may include, but are not limited to, armoring
2 with rip-rap, replanting, mulching, seeding, installing commercial
3 erosion control devices to manufacture's specifications, or other
4 suitable treatment to minimize soil erosion and sediment transport and
5 to prevent the discharge of sediment into watercourses and lakes in
6 quantities ~~CGS OPTION deleterious~~ that violate Water Quality
7 Requirements or result in significant NMFS OPTION: individual or
8 cumulative adverse impacts to the beneficial uses of water.

9 (d) Appropriate drainage facilities shall be installed along removed
10 logging road watercourse crossing approaches at locations that
11 minimize the concentration of surface runoff and soil erosion and to
12 prevent the discharge of sediment into watercourses and lakes in
13 quantities ~~CGS Option~~ that violate Water Quality Requirements or
14 result in significant NMFS OPTION: individual or cumulative adverse
15 impacts to the beneficial uses of water ~~deleterious to the beneficial~~
16 uses of water.

17 (e) Where it is not feasible to remove a logging road watercourse
18 crossing or its associated fill to the above standards, the plan shall
19 identify how soil erosion and sediment transport will be minimized and
20 how the discharge of ~~deleterious~~ quantities of sediment ~~CGS Option~~
21 that violate Water Quality Requirements or result in significant NMFS
22 OPTION: individual or cumulative adverse impacts to the beneficial
23 uses of water into watercourses and lakes will be prevented.

24 (f) Where a significant volume of sediment is stored upstream from a
25 logging road watercourse crossing that is proposed to be removed, the
stored sediment shall be removed or stabilized, to the extent

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1 feasible, as described in the plan and in conformance with required
2 DF&G 1600 agreements.

3 (g) All logging road watercourse crossings proposed for removal shall
4 be removed upon completion of use, prior to the winter period or as
5 specified in the applicable DFG 1600 agreement, whichever is earlier,
6 or as otherwise specified in the plan.

7 (h) Where the removal of an individual logging road watercourse
8 crossing eliminates access to other temporary crossings, all such
9 crossings shall be removed concurrently.

10 (i) If operations are conducted during the winter period, temporary
11 logging road watercourse crossings shall be removed before the flow of
12 water exceeds the capacity of the individual crossing.

14 **Amend § 1034. Contents of Plan.**

15 ******(x)** The information in subsections (1)-(4)(A), (5)(A)-(5)(K),
16 if applicable, (6)(A)-(B), and (7)-(16) shall be clearly shown on a
17 map that is based upon a U. S. Geological Survey topographic
18 quadrangle map, or equivalent, published at a scale of 1:24,000 or
19 larger. ~~On titled USGS (if available) or equivalent topographic maps of~~
20 a scale not less than 2" to the mile, the information in subsections
21 (1-4), (8), (9), and (11-13) shall be clearly shown. The information
22 in subsections (4)(B), (5)(A)-(5)(L), if applicable, and (6)(C) shall
23 be clearly shown on a topographic map at a scale of 1/2 inch equals 1
24 mile (1:126,720) or larger. Additional maps, which may be topographic
25 or planimetric, may be used to provide the information required in the
other subsections, to ~~o~~ show specific details, and to improve map

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1 clarity. ~~The appurtenant roads referenced in subsection (4) may be~~
2 ~~shown on a map which may be planimetric with a scale as small as one-~~
3 ~~half inch equals one mile.~~ Color coding shall not be used. A legend
4 shall be included indicating the meaning of the symbols used to depict
5 operational features on maps. See the district rules for the
6 appropriate minimum mapping acreages.

7 (1)-(3) [No change]

8 (4) ~~Location of public roads and those private roads to be used~~
9 ~~for timber operations within the plan area, and private roads~~
10 ~~appurtenant to the timber operations where such roads are under the~~
11 ~~ownership or control of the timber owner, timberland owner, timber~~
12 ~~operator, or submitter of the plan, and classification of all proposed~~
13 ~~and existing logging roads as permanent, seasonal, or temporary roads.~~

14 The following logging road- and landing-related features shall be
15 shown on a map of the appropriate type and scale as described in
16 subsection (x) above:

17 (A) Location of logging roads within the harvest area,
18 including those located in watercourses, lakes, WLPZs, marshes, wet
19 meadows, or other wet areas and those proposed for abandonment or
20 deactivation.

21 (B) Location of logging roads under the ownership or
22 control of the timber owner, timberland owner, timber operator, or
23 plan submitter that will be used for log hauling and that are between
24 the harvest area and the first public road to be used for log hauling.

25 This shall include:

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1 (i) Logging roads and landings located in
2 watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas,
3 other than at logging road watercourse crossings.

4 (ii) Logging roads and landings proposed for
5 abandonment or deactivation.

6 (iii) Logging roads that provide access to rock pits
7 and water drafting sites.

8 (5) Probable location of proposed and existing landings in the
9 watercourse and lake protection zone, and landings outside the zone
10 that are greater than 1/4 acre in size or whose construction involves
11 substantial excavation. The following shall be mapped at the
12 appropriate scale required under subsection (x), whichever is
13 applicable, for all constructed and reconstructed logging roads and
14 landings, unless otherwise described:

15 (A) Location of logging road grades greater than 15
16 percent for over 200 continuous feet or logging road grades exceeding
17 20 percent.

18 (B) Location of road failures on existing logging roads to
19 be reconstructed.

20 (C) Location of logging roads across and landings on
21 unstable areas or connected headwall swales.

22 (D) Location of logging roads or landings within Class I,
23 II, III, or IV watercourses or lakes, WLPZs, marshes, wet meadows, or
24 other wet areas other than at logging road watercourse crossings.

25

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1 (E) Location of logging roads and landings with
2 insloping, inside ditch drainage, or crowning in excess of 300 lineal
3 feet that drains into a classified watercourse or lake.

4 (F) Location of landings that require substantial
5 excavation and landings in excess of one-quarter acre in size.

6 (G) Location of disposal sites for spoils generated during
7 logging road or landing construction or reconstruction on slopes
8 greater than 40 percent or on active unstable areas.

9 (H) Location of logging roads and landings across slopes
10 greater than 65 percent for 100 lineal feet or more.

11 (I) Location of logging roads and landings across slopes
12 greater than 50 percent for 100 lineal feet or more within 100 feet of
13 the boundary of a WLPZ that drains toward the zoned watercourse or
14 lake.

15 (J) In watersheds with listed anadromous salmonids and in
16 planning watersheds immediately upstream of, and contiguous to, any
17 watershed with listed anadromous salmonids, location of active erosion
18 sites on logging roads and landings that will be treated.

19 (K) In watersheds with listed anadromous salmonids,
20 location of proposed water drafting locations.

21 (L) Location of any other area(s) where non-standard
22 practices on logging roads are proposed.

23 (6) The following logging road watercourse crossing-related
24 features shall be shown on a map of the appropriate type and scale as
25 described in subsection (x) above:

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1 (A) Location of existing logging road watercourse

2 crossings within the harvest area, including those crossings to be
3 abandoned or deactivated. This requirement may be met by depicting
4 the intersection of a logging road and a watercourse.

5 (B) Location of constructed and reconstructed logging road

6 watercourse crossings within the harvest area, including those
7 crossings to be abandoned or deactivated.

8 (C) Logging road watercourse crossings that are not within

9 the harvest area but are under the ownership or control of the owner
10 of the timberland where timber is proposed for harvest and are between
11 the harvest area and the first public road to be used for log hauling
12 that are:

13 (i) Existing logging road watercourse crossings of

14 Class I and Class II waters that will be used for log hauling.

15 (ii) Constructed and reconstructed logging road

16 watercourse crossings that will be used for log hauling.

17 (iii) Existing logging road watercourse crossings to be

18 abandoned or deactivated.

19 Existing logging road watercourse crossings may be shown by

20 depicting the intersection of a logging road and a watercourse.

21 ~~(6) Road failures on existing roads to be reconstructed.~~

22 (7) Location of all tractor road watercourse crossings of

23 classified watercourses except temporary crossings of Class III
24 watercourses that are dry at the time of use ~~without flowing water~~
25 during timber operations at that crossing.

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1 (8) Location of erosion hazard rating areas, if more than one
2 rating exists.

3 (9) Location of watercourses and lakes with Class I, II, III,
4 or IV waters.

5 (10) Location of known unstable areas or slides.

6 (11) Location of understocked areas prior to timber operations,
7 and other areas not normally bearing timber to at least a 20-acre
8 minimum, or as specified in the district rules.

9 (12) Location of boundaries of timber-site classes needed for
10 determination of stocking standards to be applied, down to at least a
11 20-acre minimum or as specified in the district rules.

12 (13) Location of main ridge tops on the logging area suitable
13 for fire suppression efforts that will require the felling of snags.

14 (14) Location of Coastal Commission Special Treatment Areas or
15 any special treatment area.

16 (15) Location for which heavy equipment use is proposed on
17 unstable areas, or on areas for which tractor use is proposed beyond
18 the limitations of the standard forest practice rules.

19 (16) Location of any in lieu use of heavy equipment and location
20 of tractor roads ~~other than crossings in the~~ watercourses, lakes
21 WLPZs, marshes, wet meadows, and other wet areas.

22 ~~(17) Location of any new or reconstructed road segment(s) that~~
23 ~~exceed an average 15% grade for over 200 feet.~~

24 **(aa)- [No change]**

25

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1 **(bb)** Winter period operating plan where appropriate that addresses
2 proposed logging road or landing construction, reconstruction. (Refer
3 to 14 CCR § 923.4(k) [943.4(k), 963.4(k)]).

4 **(cc)** Explanation and justification for use of watercourses, marshes,
5 wet meadows, and other wet areas as ~~landings, roads, or skid trails~~
6 tractor roads.

7 **(dd)-(ee)** [No change]

8 **(ff)** ~~Explanation and justification for landings that exceed the~~
9 ~~maximum size specified in the rules.~~

10 ~~(gg)~~ Any other information required by the rules or the Act to be
11 included in the plan. The district rules provide for exceptions and
12 alternatives to standard requirements that require inclusion of
13 information in the THP.

14 ~~(hh)~~ ~~Where roads, watercourse crossings, and associated landings in~~
15 ~~the logging area will be abandoned, the methods for abandonment shall~~
16 ~~be described.~~

17 ~~(ii)~~ ~~On a map complying with subsection 1034(x), the locations and~~
18 ~~classifications of roads, watercourse crossings, and landings to be~~
19 ~~abandoned shall be shown.~~

20 ~~(jj)~~**(gg)** A general description of physical conditions at the plan
21 site, including general soils and topography information, vegetation
22 and stand conditions, and watershed and stream conditions.

23 **(hh) Option 1:** All logging roads and all landings requiring
24 construction or reconstruction along non-public roads that are not
25 within the harvest area nor under the ownership or control of the
timberland owner whose land is being harvested shall be identified.

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1 (Option 2: Do not adopt the contents of subsection (hh) proposed
2 under Option 1 and begin re-numbering subsection (ii) as (hh), (jj) as
3 (ii), etc.)

4 (ii) The following shall be disclosed and described in the plan for
5 all existing, constructed, and reconstructed logging roads, landings
6 and logging road watercourse crossings, where applicable:

7 (1) For those with identified sensitive conditions per 14 CCR §
8 923.1(d) [943.1(d), 963.1(d)] and 923.10(f) [943.10(f), 963.10(f)]:

9 (A) Such sensitive conditions, including where they may
10 interact with proposed timber operations, that individually or
11 cumulatively, significantly and adversely affect, the beneficial uses
12 of water.

13 (B) Feasible protection measures for identified sensitive
14 conditions, which consider the watercourse classification and the
15 location and planned use of all logging roads and landings.

16 (C) An implementation schedule where feasible protection
17 measures are proposed.

18 (2) Soil stabilization measures, including timing of
19 installation. (Refer to 14 CCR § 923.5(1) [943.5(1), 963.5(1)])

20 (3) Maintenance treatments to running surfaces of logging roads
21 and landing surfaces. (Refer to 14 CCR § 923.7(c) [943.7(c),
22 963.7(c)]).

23 (4) Describe how logging road watercourse crossings, including
24 temporary crossings and those along abandoned or deactivated logging
25 roads, are to be removed. (Refer to 14 CCR § 923.17 [943.17,
963.17]).

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1 (5) In watersheds with listed anadromous salmonids and in
2 planning watersheds immediately upstream of, and contiguous to, any
3 watershed with listed anadromous salmonids:

4 (A) Specific erosion control measures for all permanent
5 and seasonal logging roads with a grade of 15 percent or greater that
6 extend 500 continuous feet or more. (Refer to 14 CCR § 923.5(p)(2)
7 [943.5(p)(2), 963.5(p)(2)]).

8 (B) Soil stabilization measures, including timing of
9 installation. (Refer to 14 CCR § 923.5(p)(3) [943.5(p)(3),
10 963.5(p)(3)]).

11 (6) In watersheds with listed anadromous salmonids, water
12 drafting site conditions and proposed water drafting activity. (Refer
13 to 14 CCR § 923.7(1)(2) [923.7(1)(2), 923.7(1)(2)].)

14 (jj) The following shall be disclosed and described in the plan for
15 all constructed and reconstructed logging roads and landings:

16 (1) Option 1: Lineal distance of individual segments of logging
17 road construction.

18 (Option 2: Total lineal distance of all logging road
19 construction.)

20 (2) Potential public safety concerns. (Refer to 14 CCR §
21 923.10(e) [943.10(e), 963.10(e)].)

22 (3) Logging roads wider than single lane compatible with the
23 largest type of equipment specified for use.

24 (4) Areas with identified isolated outcrops of asbestos-bearing
25 soil or parent material.

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1 (5) Areas with potential mercury in soil, fills, or mine
2 tailings.

3 (6) Areas where rules require a constructed bench to support
4 fill on slopes greater than 50 percent for 100 lineal feet or more.

5 (7) Landings in excess of one-quarter acre on slopes exceeding
6 40 percent.

7 (8) Logging roads across or landings on unstable areas or
8 connected headwall swales.

9 (9) Logging roads or landings within Class I, II, III, or IV
10 watercourses or lakes, WLPZs, marshes, wet meadows, or other wet areas
11 other than at logging road watercourse crossings.

12 (10) Logging road and landing insloping, inside ditch drainage,
13 or crowning in excess of 300 lineal feet that drains to a classified
14 watercourse or lake.

15 (11) Road failures on existing logging roads to be
16 reconstructed.

17 (12) Disposal sites for spoils generated during logging road or
18 landing construction or reconstruction on slopes greater than 40
19 percent or on active unstable areas.

20 (13) Logging roads and landings across slopes greater than 50
21 percent for 100 lineal feet or more within 100 feet of the boundary of
22 a WLPZ that drains toward the zoned watercourse or lake, including
23 specific construction techniques or measures. (Refer to 14 CCR §
24 923.4(m) [943.4(m), 963.4(m)]).

25 (14) Logging roads and landings across or landings on slopes
greater than 65 percent for 100 lineal feet or more, including

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1 specific construction techniques or measures to minimize movement of
2 soil and the discharge of concentrated surface runoff. (Refer to 14
3 CCR § 923.2(a)(6) [943.2(a)(6), 963.2(a)(6)]).

4 (15) Logging roads or landings to be abandoned or deactivated,
5 including specific measures used to apply the general abandonment or
6 deactivation requirements of 14 CCR § 923.8 [943.8, 963.8].

7 (16) Landings that require substantial excavation and landings
8 in excess of one-quarter acre in size.

9 (17) Any other areas where non-standard practices on logging
10 roads or landings are proposed.

11 (kk) In watersheds with listed anadromous salmonids and in planning
12 watersheds immediately upstream of, and contiguous to, any watershed
13 with listed anadromous salmonids, the following shall be disclosed in
14 the plan:

15 (1) Erosion sites on logging roads and landings that will be
16 treated, including proposed treatment(s). (Refer to 14 CCR § 923.2(f)
17 [943.2(f), 963.2(f)]).

18 (2) Identification and description of specific provisions for
19 all proposed logging road construction on slopes greater than 50
20 percent. (Refer to 14 CCR § 923.4(s)(1)(A) [943.4(s)(1)(A),
21 963.4(s)(1)(A)]).

22 (3) Where logging road or landing construction or
23 reconstruction is proposed, the location of, and specifications for,
24 logging road and landing abandonment or other mitigation measures to
25 minimize the adverse effects of long-term site occupancy of the road

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1 system within the watershed. (Refer to 14 CCR § 923.1(f) [943.1(f),
2 963.1(f)]).

3 Option 1 Where logging road or landing construction or
4 reconstruction is proposed, the plan shall identify:

5 (A) How the proposed operations will fit into the
6 systematic layout pattern.

7 (B) What, if any, offsetting mitigation measures,
8 including but not limited to, abandonment of logging roads and
9 landings, are needed to minimize potential adverse impacts to
10 watersheds from the road system. (Refer to 14 CCR § 923.1(f)
11 [943.1(f), 963.1(f)]).

12 (4) During the extended wet weather period, the winter period
13 operating plan shall:

14 (A) Address, where applicable, proposed logging road or
15 landing construction, reconstruction and use. (Refer to 14 CCR §§
16 923.4(s)(2) [943.4(s)(2), 963.4(s)(2)] and 923.6(j)(5) [943.4(j)(5),
17 963.4(j)(5)]).

18 (B) Specify an implementation schedule where logging road
19 watercourse crossing construction or reconstruction is proposed.
20 (Refer to 14 CCR § 923.13(n) [943.13(n), 963.13(n)].)

21 (11) In watersheds with listed anadromous salmonids, the following
22 shall apply:

23 (1) Disclose and describe all existing permanent logging road
24 watercourse crossings. (Refer to 14 CCR § 14 CCR § 923.11(1)(1)
25 [943.11(1)(1), 963.11(1)(1)].)

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1 (2) In addition to the description of all existing permanent
2 logging road watercourse crossings required by subsection (kk)(3), for
3 Class I watercourses, where fish are always or seasonally present or
4 where fish habitat is restorable, any plan involving timber operations
5 within the WLPZ shall contain the following information:

6 (A) Clear and enforceable specifications describing how
7 these crossings are to be modified, used, and treated to minimize
8 risks, giving special attention to allowing fish to pass both upstream
9 and downstream during all life stages and in conformance with the
10 standards of subsection 923.11(j) [943.11(j), 963.11(j)] and 14 CCR §
11 923.10(h) [943.10(h), 963.10(h)].

12 (B) Clear and enforceable specifications for construction
13 and operation of any new crossing(s) of a Class I watercourse to
14 prevent direct harm, habitat degradation, water velocity increase,
15 hindrance of fish passage, or other potential impairment of beneficial
16 uses of water. (Refer to 14 CCR § 923.11(1)(2)-(3) [943.11(1)(2)-(3),
17 963.11(1)(2)-(3)].)

18 (mm) The following shall be provided in the plan for all constructed
19 and reconstructed logging road watercourse crossings:

20 (1) Describe all constructed or reconstructed logging road
21 watercourse crossings within the harvest area, as needed.

22 (2) Option 1: Disclose and describe all permanent and
23 temporary logging road watercourse crossings requiring construction or
24 reconstruction along non-public roads, except temporary logging road
25 watercourse crossings of Class III watercourses that are dry at the
time of use, that are not within the harvest area nor under the

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1 ownership or control of the timberland owner where timber is proposed
2 for harvest. (Option 2: Do not adopt the contents of subsection
3 (mm)(2) proposed under Option 1 and begin re-numbering subsection
4 (mm)(3) as (mm)(2), (mm)(4) as (mm)(3), etc.)

5 (3) Disclose the potential public safety impacts where crossing
6 construction or reconstruction may affect public safety. (Refer to 14
7 CCR § 923.10(e) [943.10(e), 963.10(e)]).

8 (4) Disclose how diversions at logging road watercourse
9 crossings will be avoided, including proposed method(s). (Refer to 14
10 CCR §§ 923.10(g) [943.10(g), 963.10(g)] and 923.11(g) [943.11(g),
11 963.11(g)]).

12 (5) Include the analyses and specifications that demonstrate
13 all permanent constructed and reconstructed logging road watercourse
14 crossing structures installed within Class I watercourses, where fish
15 are always or seasonally present or where fish habitat is restorable,
16 will be designed to allow for upstream and downstream passage of fish
17 or listed aquatic species during any life stage and for the natural
18 movement of bedload. (Refer to 14 CCR § 923.11(i)-(j) [943.11(i)-(j),
19 963.11(i)-(j)].)

20 (6) Specify the minimum diameter of the culvert and the
21 method(s) used to determine the culvert diameter where new culverts
22 are proposed for permanent installation at a logging road watercourse
23 crossing. (Refer to 14 CCR § 923.11(e) [943.11(e), 963.11(e)].)

24 (7) State the range of required rock dimensions for rock used
25 in logging road watercourse crossings utilizing fords. (Refer to 14
CCR § 923.11(h) [943.11(h), 963.11(h)].)

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1 (8) Identify protection measures needed to reduce sediment
2 delivery where evidence of substantial soil erosion and discharge of
3 sediment into watercourses or lakes in quantities **CGS OPTION**
4 ~~deleterious~~ that violate Water Quality Requirements or result in
5 significant **NMFS OPTION: individual or cumulative** adverse impacts to
6 the beneficial uses of water is present at a logging road watercourse
7 crossing used for timber operations. (Refer to 14 CCR § 923.16(d)
8 [943.16(d), 963.16(d)].)

9 (9) Identify how soil erosion and sediment transport will be
10 minimized and how the discharge of soil in quantities **CGS OPTION**
11 ~~deleterious~~ that violate Water Quality Requirements or result in
12 significant **NMFS OPTION: individual or cumulative** adverse impacts to
13 the beneficial uses will be prevented where it is not feasible to
14 remove a logging road watercourse crossing or its associated fill to
15 the standards contained in 14 CCR § 923.17 [943.17, 963.17]. (Refer
16 to 14 CCR §§ 923.8(e) [943.8(e), 963.8(e)] and 923.17(e) [943.17(e),
17 963.17(e)].)

18 (10) Disclose and describe site conditions, and, to the extent
19 feasible, specify measures to be taken to address potential sediment
20 mobilization where a significant volume of sediment is stored upstream
21 from a logging road watercourse crossing that is proposed to be
22 removed. (Refer to 14 CCR §§ 923.13(g) [943.13(g), 963.13(g)] and
23 923.17(f) [943.17(f), 963.17(f)].)

24 (11) In watersheds with listed anadromous salmonids, **Option 1**
25 state how existing permanent culverts used for logging road
watercourse crossings on Class I watercourses, where fish are always

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1 or seasonally present or where fish habitat is restorable, shall be
2 brought up to the standards of 14 CCR § 923.11(c) [943.11(c),
3 963.11(c)].

4 [Option 2, (A) state how existing permanent culverts used
5 for logging road watercourse crossings on Class I watercourses, where
6 fish are always or seasonally present or where fish habitat is
7 restorable, shall be brought up to the standards of 14 CCR § 923.11(c)
8 [943.11(c), 963.11(c)].

9 (B) (This only applies if 14 CCR § 923.11(k) [943.11(k),
10 963.11(k)], Option 1 is adopted.) In addition to the requirements of
11 14 CCR § 923.11(k) [943.11(k), 963.11(k)], include the method of
12 analysis and the design for logging road watercourse crossing
13 protection. (Refer to 14 CCR § 14 CCR § 923.11(k) [943.11(k),
14 963.11(k)].)]

15
16 **Amend 1051.1. Contents of Modified THP**

17 A plan submitted under ~~section~~ 14 CCR § 1051 above shall contain all
18 the provisions of 14 CCR § 1034 except the following: (o), (x)(6),
19 (x)(7), (z), (cc), (dd), (ee), (ff), and (mm), and the RPF shall:

20
21 **Amend 1090.5 Contents of NTMP**

22
23 (w) On a USGS quadrangle or equivalent topographical map of a scale
24 not less than 2" to the mile, the following information shall be
25 clearly provided. Additional maps may be required to show specific
details, and may be planimetric. Color coding shall not be used. A

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1 legend shall be included indicating the meaning of the symbols used to
2 depict operational features on maps. See the district rules for the
3 appropriate minimum mapping acreages.

4 (1)-(3) [No change]

5 (4) Location of public roads within the ~~plan~~ harvest area, and
6 private roads appurtenant to the timber operations where such roads
7 are under the ownership or control of the timberland owner and are
8 contiguous with the ~~plan~~ harvest area, and classification of all
9 proposed and existing logging roads as permanent, seasonal, or
10 temporary roads.

11 (5)-14) [No change]

12 (x)-(ff) [No change]

13 (gg) Where logging roads, logging road watercourse crossings, and
14 associated landings in the logging area will be abandoned or
15 deactivated, the methods for abandonment or deactivation shall be
16 described.

17 (hh) On a map complying with ~~subsection 14 CCR § 1090.6(x)~~ 1090.5(w),
18 the locations and classifications of logging roads, logging road
19 watercourse crossings, and landings to be abandoned or deactivated
20 shall be shown.

21 (ii) [No change]

22
23 **Amend 1090.7 Notice of Timber Operations Content**

24 *******(n)** On a USGS quadrangle or equivalent map of a scale not less
25 than 2" to the mile, the following information pertinent to the Notice
of Operations shall be clearly provided. Additional maps may be

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1 required to show specific details, and may be planimetric. Color
2 coding shall not be used. A legend shall be included indicating the
3 meaning of the symbols used to depict operational features on maps.

4 See the district rules for the appropriate minimum mapping acreages.

5 (1)-(3) [No change]

6 (4) Location of public roads within the Notice area, and
7 private roads appurtenant to the timber operations where such roads
8 are under the ownership or control of the timberland owner, and are
9 contiguous with the Notice area, and classification of all proposed
10 and existing logging roads as permanent, seasonal, or temporary roads.

11 (5)-(11) [No change]

12 Amend 1092.09 PTHP Contents

13 (a) - (K) No change

14 (1) ~~On a titled USGS quadrangle or equivalent topographic map of a~~
15 ~~scale not less than 2" to the mile map that is based upon a U. S.~~
16 ~~Geological Survey topographic quadrangle map, or equivalent, published~~
17 ~~at a scale of 1:24,000 or larger, the information in subsections (1-5)~~
18 ~~(1)-(5)(A), (6)(A)-(6)(K), if applicable, (7)(A)-(B), and (7-11) shall~~
19 ~~be clearly shown. On a topographic map at a scale of 1/2 inch equals~~
20 ~~1 mile (1:126,720) or larger, the information in subsections (5)(B),~~
21 ~~(6)(A)-(6)(K), if applicable, and (7)(C) shall be clearly shown.~~

22 Additional maps, which may be topographic or planimetric, may be used
23 to provide the information required in other subsections or show
24 specific details, and to improve map clarity. ~~The appurtenant roads~~
25 ~~referenced in subsection (5) may be shown on a map which may be~~

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1 ~~planimetric with a scale as small as one half inch equals one mile.~~

2 Color coding shall not be used. A legend shall be included indicating
3 the meaning of the symbols used to depict operational features on
4 maps. See the district rules for the appropriate minimum mapping
5 acreage.

6 (1)-(4) [No change]

7 (5) ~~Location of public roads within the PTHP, and private roads~~
8 ~~appurtenant to the timber operations where such roads are under the~~
9 ~~ownership or control of the timber owner, timberland owner or timber~~
10 ~~operator, and classification of all proposed and existing logging~~
11 ~~roads as permanent, seasonal, or temporary roads. The following~~
12 logging road- and landing-related features shall be shown on a map of
13 the appropriate type and scale as described in subsection (1) above:

14 (A) Location of all logging roads within the harvest area,
15 including those located in watercourses, lakes, WLPZs, marshes, wet
16 meadows, or other wet areas and those proposed for abandonment or
17 deactivation.

18 (B) Location of all logging roads that will be used for
19 log hauling under the ownership or control of the timber owner,
20 timberland owner, timber operator, or plan submitter that are between
21 the harvest area and the first public road to be used for log hauling.
22 This shall include:

23 (i) Logging roads and landings located in
24 watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas,
25 other than at logging road watercourse crossings.

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1 (ii) Logging roads and landings proposed for
2 abandonment or deactivation.

3 (iii) Logging roads that provide access to rock pits
4 and water drafting sites.

5 (6) The following shall be mapped at the appropriate scale
6 required under subsection (1), whichever is applicable, for all
7 constructed and reconstructed logging roads and landings, unless
8 otherwise noted:

9 (A) Location of logging road grades greater than 15
10 percent for over 200 continuous feet or logging road grades greater
11 than 20 percent.

12 (B) Location of road failures on existing roads to be
13 reconstructed.

14 (C) Location of logging roads across or landings on
15 unstable areas or connected headwall swales.

16 (D) Location of logging roads or landings within Class I,
17 II, III, or IV watercourses or lakes, WLPZs, marshes, wet meadows, or
18 other wet areas other than at logging road watercourse crossings.

19 (E) Location of logging road and landing insloping, inside
20 ditch drainage, or crowning in excess of 300 lineal feet that drains
21 to a classified watercourse or lake.

22 (F) Location of landings that require substantial
23 excavation and landings in excess of one-quarter acre in size.

24 (G) Location of disposal sites for spoils generated during
25 logging road or landing construction or reconstruction on slopes
greater than 40 percent or on active unstable areas.

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1 (H) Location of logging roads and landings across slopes
2 greater than than 65 percent for 100 lineal feet or more.

3 (I) Location of logging roads and landings across slopes
4 greater than 50 percent for 100 lineal feet or more within 100 feet of
5 the boundary of a WLPZ that drains toward the zoned watercourse or
6 lake.

7 (J) In watersheds with listed anadromous salmonids and in
8 planning watersheds immediately upstream of, and contiguous to, any
9 watershed with listed anadromous salmonids, the location of active
10 erosion sites on logging roads and landings that will be treated.

11 (K) In watersheds with listed anadromous salmonids,
12 location of proposed water drafting locations.

13 (L) Location of any other area(s) where non-standard
14 practices on logging roads are proposed.

15 (7)(6) — Location of proposed and existing landings in the
16 watercourse and lake protection zone, and landings outside the zone
17 that are greater than 1/4 acre in size or whose construction involves
18 substantial excavation. The following logging road watercourse
19 crossing-related items shall be shown on a map of the appropriate type
20 and scale as described in subsection (1) above:

21 (A) Location of all existing logging road watercourse
22 crossings within the harvest area, including those proposed for
23 abandonment or deactivation. This requirement may be met by depicting
24 the intersection of a logging road and a watercourse.

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1 (B) Location of all constructed or reconstructed logging
2 road watercourse crossings within the harvest area, including those
3 proposed for abandonment or deactivation.

4 (C) For logging road watercourse crossings that are not
5 within the harvest area but are under the ownership or control of the
6 owner of the timberland where timber is proposed for harvest and that
7 are between the harvest area and the first public road to be used for
8 log hauling:

9 (i) Existing logging road watercourse crossings of
10 Class I and Class II waters that will be used for log hauling.

11 (ii) Constructed and reconstructed logging road
12 watercourse crossings that will be used for log hauling.

13 (iii) Existing logging road watercourse crossings to be
14 abandoned or deactivated.

15 Existing logging road watercourse crossings may be shown by
16 depicting the intersection of a logging road and a watercourse.

17 ~~(8) (7) Road failures on existing roads to be reconstructed.~~

18 ~~(8) Location of all tractor road watercourse crossings of~~
19 ~~classified watercourses except temporary crossings of class III~~
20 ~~watercourses that are dry at the time of use without flowing water~~
21 ~~during timber operations at that crossing.~~

22 (9) Location of erosion hazard rating areas, if more than one
23 rating exists.

24 (10) Location of watercourses and lakes with Class I, II, III or
25 IV waters.

 (11) Location of known unstable areas or slides.

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1 (12) Location of unique areas.

2
3 Amend § 1093.2. Contents of Road Management Plan.

4 The Road Management Plan shall, at a minimum, contain the following
5 information:*****

6 ***** (3) The operational element shall, at a minimum, address
7 proposed road management operations, stated time frames for actions,
8 clear lines of responsibility for implementation, and schedules to be
9 implemented in a plan, including:

10 (A) **BOF Adopted language 9/7/10:** (A) A road construction,
11 reconstruction and use component to ensure that operations occur on a
12 stable operating surface that does not produce sediment in quantities
13 that may cause a visible increase in turbidity of downstream waters in
14 receiving Class I, II, III or IV waters or would violate Water Quality
15 Requirements. This component shall include, at a minimum, restrictions
16 for wet weather operations, surfacing objectives, and provisions for
17 water drafting.*****

18 (A) **Staff OPTION** A road construction, reconstruction and
19 use component to ensure that operations occur on a stable operating
20 surface. Construction, reconstruction and use may occur on isolated
21 wet spots provided measures, as specified in the THP, are taken to
22 prevent significant discharge of sediment to watercourses or lakes.

23 This component shall include, at a minimum, restrictions for wet
24 weather operations, surfacing objectives, and provisions for water
25 drafting.

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1 (A)⁵³ A road construction, reconstruction and use component to
2 ensure that operations occur on a stable operating surface that does
3 not produce sediment in quantities CGS OPTION deleterious that violate
4 Water Quality Requirements or result in significant NMFS OPTION:
5 individual or cumulative adverse impacts to the beneficial uses of
6 water ~~may cause a visible increase in turbidity of downstream waters~~
7 ~~in receiving Class I, II, III or IV waters or would violate Water~~
8 ~~Quality Requirements.~~

9 (A)⁵⁴ **OPTION CAL FIRE from 8/23/10 comment:** A road construction,
10 reconstruction and use component to ensure that operations occur on a
11 stable operating surface. Construction, reconstruction and use may
12 occur on isolated wet spots provided measures, as specified in the
13 THP, are taken to prevent sediment discharge that may reach
14 watercourses or lakes. This component shall include, at a minimum,
15 restrictions for wet weather operations, surfacing objectives, and
16 provisions for water drafting.

17
18 ⁵³ CGS OPTION was proposed as part of the FPC deliberation in 2010 for
19 language on sediment discharge. The language is used throughout the Road
20 Rules, 2010 proposal. Staff's recommendation is that whichever Option is
21 selected on sediment discharge, (the CGS/RRTF's, CAL FIRE Option A, or the
22 language adopted by the Board in On 9/7/10, it be routinely used throughout
23 eh Road Rules 2010 proposal.

24 ⁵⁴ Option incorporates Cal Fire recommended rule changes submitted to the
25 board on August 23, 2010. The changes address sediment discharge risks
associated with operations on saturated soils. The amendments also ensure
better enforcement of operation on saturated soils as the current definition
of saturated soils is easy to understand can be applied consistently by Cal
Fire inspectors and avoids subjective interpretations of "potential"
discharges. The changes address water board issue on noncompliance with
policies regarding the use of "increased invisible turbidity" as the point of
cessation of operations.

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1 *****Note: Authority cited: Sections 4551, 4551.5, 4553, 4562.7 and
2 21000(g), Public Resources Code. Reference: Sections 751, 4512, 4513,
3 4551, 4551.5, 4562.5, 4562.7, 21000 and 21001, Public Resources Code;
4 Sections 100, 1243 and 13050(f), Water Code; Sections 1600 and
5 5650(c), Fish and Game Code; and NRDC v. Arcata National Corp. (1976)
6 59 Cal. App. 3d 959, 131 Cal. Rptr. 172.

7 Amend § 1104.1. Conversion Exemptions.

8 Timber operations conducted under this subsection shall be exempt
9 from conversion permit and timber harvesting plan requirements of this
10 article*****

11 *******(E)** Timber operations may be conducted during the winter
12 period. Tractor operations in the winter period are allowed under any
13 of the following conditions:

14 **1. BOF adopted language 9/7/10:** During dry, rainless
15 periods but shall not be conducted on saturated soil conditions that
16 may produce sediment in quantities sufficient to cause a visible
17 increase in turbidity of downstream waters in receiving Class I, II,
18 III or IV waters or that violate Water Quality Requirements. Erosion
19 control structures shall be installed on all constructed skid trails
20 and tractor roads prior to sunset if the National Weather Service
21 forecast is a "chance" (30% or more) of rain within the next 24
22 hours.*****

23 **1. STAFF OPTION:** During dry, rainless periods where saturated
24 soils conditions, as defined in 14 CCR 895.1, are not present. Timber
25 operations may occur on isolated wet spots provided measures, as
specified in the THP, are taken to prevent significant discharge of
sediment to watercourses or lakes. ~~that may produce sediment in~~
quantities sufficient to cause a visible increase in turbidity of

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1 ~~downstream waters in receiving Class I, II, III or IV waters or that~~
2 ~~violate Water Quality Requirements.~~ Erosion control structures shall
3 be installed on all constructed skid trails and tractor roads prior to
4 sunset if the National Weather Service forecast is a "chance" (30% or
5 more) of rain within the next 24 hours.*****

6 1.⁵⁵ During dry, rainless periods and shall not be conducted on
7 saturated soil conditions that may produce sediment in quantities CGS
8 OPTION deleterious that violate Water Quality Requirements or result
9 in significant NMFS OPTION: individual or cumulative adverse impacts to
10 ~~the beneficial uses of watersufficient to cause a visible increase in~~
11 ~~turbidity of downstream waters in receiving Class I, II, III or IV~~
12 ~~waters or that violate Water Quality Requirements.~~ Erosion control
13 structures shall be installed on all constructed skid trails and
14 tractor roads prior to sunset if the National Weather Service forecast
15 is a "chance" (30% or more) of rain within the next 24 hours.*****

16 1. ⁵⁶ **OPTION CAL FIRE from 8/23/10 comment:** During dry, rainless

17
18 ⁵⁵ CGS OPTION was proposed as part of the FPC deliberation in 2010 for
19 language on sediment discharge. The language is used throughout the Road
20 Rules, 2010 proposal. Staff's recommendation is that whichever Option is
21 selected on sediment discharge, (the CGS/RRTF's, CAL FIRE Option A, or the
22 language adopted by the Board in On 9/7/10, it be routinely used throughout
23 eh Road Rules 2010 proposal.

24 ⁵⁶ Option A incorporates Cal Fire recommended rule changes submitted to the
25 board on August 23, 2010. The changes address sediment discharge risks
associated with operations on saturated soils. The amendments also ensure
better enforcement of operations on saturated soils as the current definition
of saturated soils is easy to understand, can be applied consistently by Cal
Fire inspectors, and avoids subjective interpretations of "potential"
discharges. The changes address water board issue on noncompliance with
policies regarding the use of "increased invisible turbidity" as the point of
cessation of operations.

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1 periods where saturated soils conditions, as defined in 14 CCR 895.1,
2 are not present. Timber operations may occur on isolated wet spots
3 provided measures, as specified in the THP, are taken to prevent
4 sediment discharge that may reach watercourses or lakes. ~~that may~~
5 ~~produce sediment in quantities sufficient to cause a visible increase~~
6 ~~in turbidity of downstream waters in receiving Class I, II, III or IV~~
7 ~~waters or that violate Water Quality Requirements.~~ Erosion control
8 structures shall be installed on all constructed skid trails and
9 tractor roads prior to sunset if the National Weather Service forecast
10 is a "chance" (30% or more) of rain within the next 24 hours.*****

11
12
13 *****Note: Authority cited: Sections 4551, 4553, 4584, 4604, 4611 and
14 4628, Public Resources Code. Reference: Sections 4512, 4513, 4628 and
15 4584, Public Resources Code.

16 End as of 2/18/11
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